



STIC Search Report

Biotech-Chem Library

STIC Database Tracking Number: 173581

TO: Patrick S Riggins
Location: REM-2D60&270
Art Unit: 1633
December 8, 2005

Case Serial Number: 10/721532

From: P. Sheppard
Location: Remsen Building
Phone: (571) 272-2529

sheppard@uspto.gov

Search Notes

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173581

STIC-Biotech/ChemLib

From: Chan, Christina
Sent: Tuesday, December 06, 2005 2:53 PM
To: Riggins, Patrick S.; STIC-Biotech/ChemLib
Subject: RE: 10721532

Please rush. Thanks, Chris

Chris Chan
TC 1600 New Hire Training Coordinator and SPE 1644
(571)-272-0841
Remsen, 3E89

-----Original Message-----

From: Riggins, Patrick S.
Sent: Tuesday, December 06, 2005 2:49 PM
To: Chan, Christina
Subject: 10721532

Chris could you please approve this search as RUSH. It's a case just transferred to me that has an old filing date and old effective filing date.

Thank you
Pat Riggins

Please search the structure found in claim 18.
The effective filing date is 11/97

Thank you
Patrick Riggins
Examiner
Art Unit 1633
REM 2D60
(571) 272-6102

Searcher: _____
Searcher Phone: _____
Date Searcher Picked up: _____
Date completed: _____
Searcher Prep Time: _____
Online Time: _____

Type of Search
NA# _____ AA# _____
S/L: _____ Oligomer: _____
Encode/Transl: _____
Structure #: _____ Text: _____
Inventor: _____ Litigation: _____

Vendors and cost where applicable
STN: _____
DIALOG: _____
QUESTEL/ORBIT: _____
LEXIS/NEXIS: _____
SEQUENCE SYSTEM: _____
WWW/Internet: _____
Other (Specify): _____

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=> fil hcaplus
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FILE COVERS 1907 - 8 Dec 2005 VOL 143 ISS 24
FILE LAST UPDATED: 7 Dec 2005 (20051207/ED)

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This file contains CAS Registry Numbers for easy and accurate substance identification.

=>
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=> d stat que
L1 STR

C~~G2~~N~~G1~~N
5 1 2 3 4

REP G1=(1-10) CH2
REP G2=(7-19) C
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DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 5

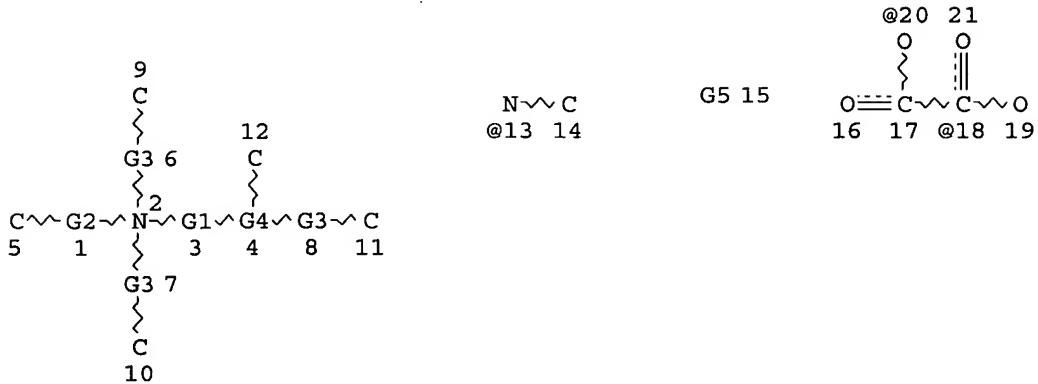
STEREO ATTRIBUTES: NONE
L2 18869 SEA FILE=REGISTRY SSS FUL L1
L3 STR

C~~G2~~N C~~G2~~N
5 1 2 8 7 6

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DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 6

STEREO ATTRIBUTES: NONE

L4 5461 SEA FILE=REGISTRY SUB=L2 SSS FUL L3
L17 STR

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REP G2=(7-19) C

REP G3=(0-5) C

VAR G4=NH/13

VAR G5=X/P/S/OH/20/18

NODE ATTRIBUTES:

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DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 21

STEREO ATTRIBUTES: NONE

L19 244 SEA FILE=REGISTRY SUB=L4 SSS FUL L17
L20 84 SEA FILE=HCAPLUS ABB=ON PLU=ON L19
L21 46 SEA FILE=HCAPLUS ABB=ON PLU=ON L20 AND PD=<DECEMBER 1, 1997

=>

=>

=> d ibib abs hitstr l21 1-46

L21 ANSWER 1 OF 46 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1998:158051 HCAPLUS

DOCUMENT NUMBER: 128:275730

TITLE: Anion-exchange extraction of doubly charged anions with solutions of higher quaternary ammonium salts

AUTHOR(S): Rakhman'ko, E. M.; Gulevich, A. L.; Podterov, A. P.; Sloboda, N. A.; Tsvirko, G. A.; Senin, P. V.

CORPORATE SOURCE: Beloruss. Gos. Univ., Belarus

SOURCE: Vestsi Akademii Navuk Belarusi, Seryya Khimichnykh Navuk (1997), (4), 9-14

CODEN: VAKNEK; ISSN: 0002-3590

PUBLISHER: Belaruskaya Navuka

DOCUMENT TYPE: Journal

LANGUAGE: Russian

AB The effect of cation nature of the higher quaternary ammonium salt (QAS) and neutral transmitter of trifluoroacetyl derivative type on anion-exchange extraction of carbonate-, sulfate- and oxalate-anions was studied in the system

of toluene solution of the extractant-water solution of the salt. Charge distribution on atoms of the anions extracted and extractants as well as their interat. distances were calculated by quantum chemical method. A correlation was

considered of extraction ability of QAS cation and extractability of the bivalent anion with geometric parameters of these particles and charge distribution on their atoms. The data obtained give a possibility to suggest a structure of ion assocs. formed by the bivalent anions and QAS cations.

IT 148942-79-4, Methylpentadecylethylenediammonium
 2,4-dinitrophenolate, processes 205496-97-5, processes
 205497-01-4 205497-02-5
 RL: PEP (Physical, engineering or chemical process); PROC (Process)
 (anion-exchange extraction of doubly charged anions with solns. of higher
 quaternary ammonium salts)

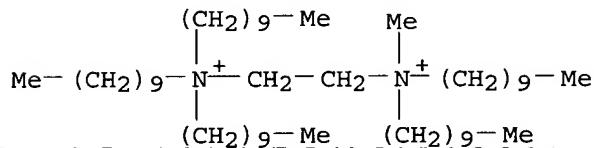
RN 148942-79-4 HCPLUS

CN 1,2-Ethanediiminium, N,N,N,N',N'-pentakis(decyl)-N'-methyl-, salt with
 2,4-dinitrophenol (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 120003-70-5

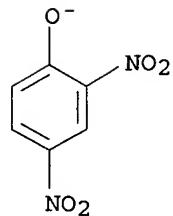
CMF C53 H112 N2



CM 2

CRN 20350-26-9

CMF C6 H3 N2 O5



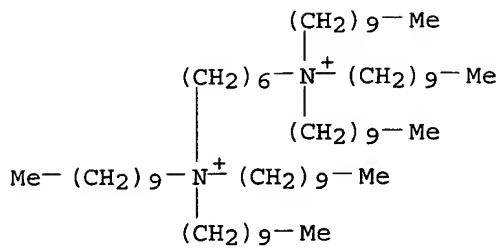
RN 205496-97-5 HCPLUS

CN 1,6-Hexanediaminium, N,N,N,N',N',N'-hexakis(decyl)-, salt with
 2,4-dinitrophenol (1:2) (9CI) (CA INDEX NAME)

CM 1

CRN 205496-96-4

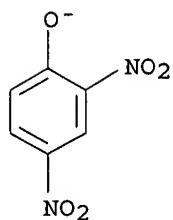
CMF C66 H138 N2



CM 2

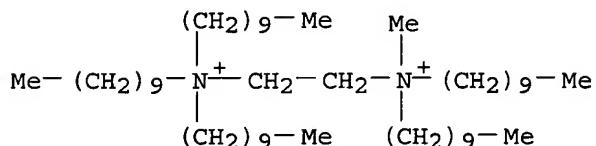
CRN 20350-26-9

CMF C6 H3 N2 O5



RN 205497-01-4 HCAPLUS

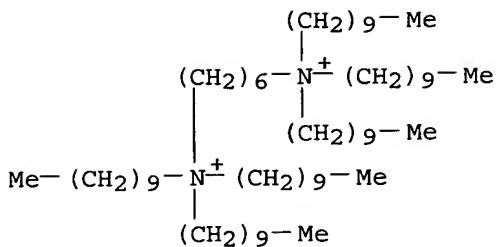
CN 1,2-Ethanediiminium, N,N,N,N',N'-pentakis(decyl)-N'-methyl-, dichloride (9CI) (CA INDEX NAME)



●2 Cl-

RN 205497-02-5 HCAPLUS

CN 1,6-Hexanediaminium, N,N,N,N',N',N'-hexakis(decyl)-, dichloride (9CI) (CA INDEX NAME)

● 2 Cl⁻

L21 ANSWER 2 OF 46 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1997:752808 HCAPLUS
 DOCUMENT NUMBER: 128:53227
 TITLE: Cationic lipids for transfection of negatively charged
 or neutral molecules into living cells
 INVENTOR(S): Haces, Alberto
 PATENT ASSIGNEE(S): Haces, Alberto, USA
 SOURCE: PCT Int. Appl., 39 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

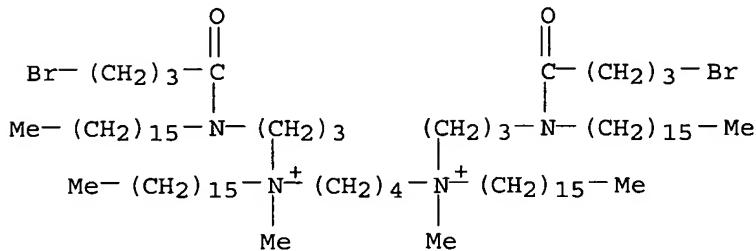
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9742819	A1	19971120	WO 1997-US9093	19970509 <--
W: CA, IL, JP, US				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
CA 2289078	AA	19971120	CA 1997-2289078	19970509 <--
PRIORITY APPLN. INFO.:			US 1996-17298P	P 19960513
			WO 1997-US9093	W 19970509

OTHER SOURCE(S): MARPAT 128:53227
 AB Cationic lipids R1R2(R3)iN+(CH₂)_mXp(CH₂)_nN+R1'R2'(R3')i 2Y- [X = O, S(O),
 CH₂; Y = anion; R1, R1' = C₁₋₁₈ aliphatic; R2, R2' = H, C₁₋₁₈ alkyl,
 cyanoethyl, aminopropyl, aminobutyl, C₂₋₄ alkyl guanidinium or amidinium,
 etc.; R3, R3' = C₁₋₆ alkyl, AcOCH₂CH₂, CH₂CO₂Et; m, n = 1-3; i, p = 0, 1]
 can be used alone or in mixts. with other liposome-forming compds. to
 prepare lipid aggregates to serve as carriers for transfection of nucleic
 acids or delivery of other neg. charged macromols. into animal cells and
 are therefore useful in gene therapy. Some of these lipids are also
 useful as detergents for cleaning and as vehicles in cosmetics. Thus, a
 mixture of β-galactosidase DNA and N,N,N',N'-
 guanidinopropyl octadecyloxybis-2,2'-ethylamine-HI (preparation given) was
 incubated with primary human epidermal keratinocytes for 4 h. After
 medium replacement and addnl. incubation for 48 h, 50% of the cells tested
 pos. for β-galactosidase.

IT 199805-38-4P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
 (Reactant or reagent)
 (cationic lipids for transfection of neg. charged or neutral mols. into
 living cells)

RN 199805-38-4 HCAPLUS

CN 1,4-Butanediaminium, N,N'-bis[3-[(4-bromo-1-oxobutyl)hexadecylamino]propyl]-N,N'-dihexadecyl-N,N'-dimethyl- (9CI) (CA INDEX NAME)

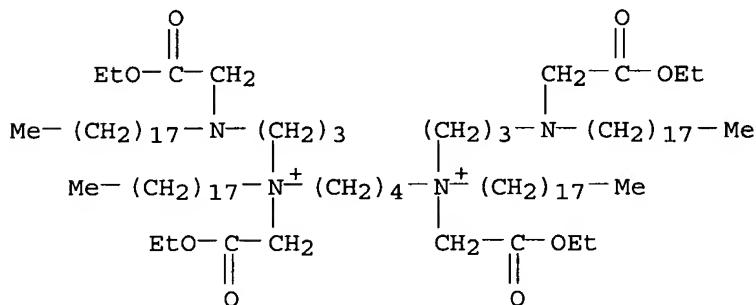


IT 199805-09-9P 199805-10-2P 199805-11-3P
199805-13-5P 199805-14-6P 199805-15-7P
199805-16-8P 199805-18-0P

RL: SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(cationic lipids for transfection of neg. charged or neutral mols. into living cells)

RN 199805-09-9 HCPLUS

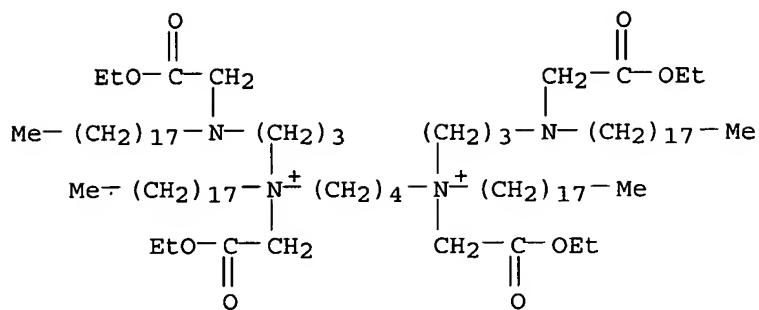
CN 1,4-Butanediaminium, N,N'-bis(2-ethoxy-2-oxoethyl)-N,N'-bis[3-[(2-ethoxy-2-oxoethyl)octadecylamino]propyl]-N,N'-dioctadecyl-, dichloride (9CI) (CA INDEX NAME)



●2 Cl⁻

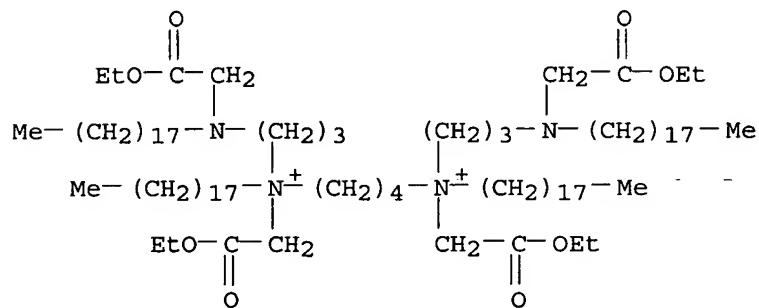
RN 199805-10-2 HCPLUS

CN 1,4-Butanediaminium, N,N'-bis(2-ethoxy-2-oxoethyl)-N,N'-bis[3-[(2-ethoxy-2-oxoethyl)octadecylamino]propyl]-N,N'-dioctadecyl-, dibromide (9CI) (CA INDEX NAME)

●2 Br⁻

RN 199805-11-3 HCAPLUS

CN 1,4-Butanediaminium, N,N'-bis(2-ethoxy-2-oxoethyl)-N,N'-bis[3-[(2-ethoxy-2-oxoethyl)octadecylamino]propyl]-N,N'-dioctadecyl-, diiodide (9CI) (CA INDEX NAME)

●2 I⁻

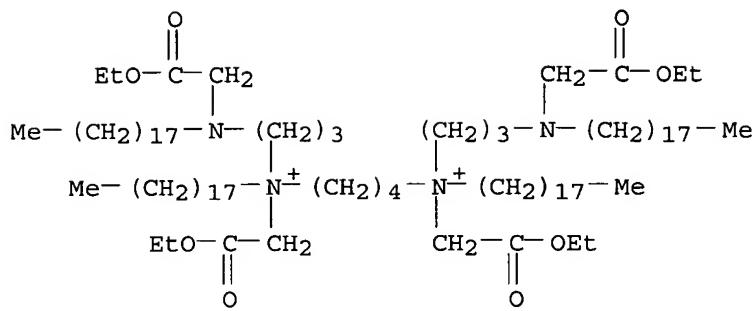
RN 199805-13-5 HCAPLUS

CN 1,4-Butanediaminium, N,N'-bis(2-ethoxy-2-oxoethyl)-N,N'-bis[3-[(2-ethoxy-2-oxoethyl)octadecylamino]propyl]-N,N'-dioctadecyl-, diacetate (9CI) (CA INDEX NAME)

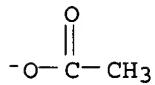
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CRN 199805-12-4

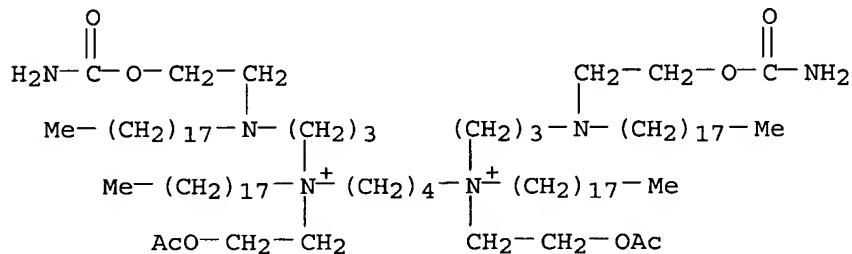
CMF C98 H196 N4 O8



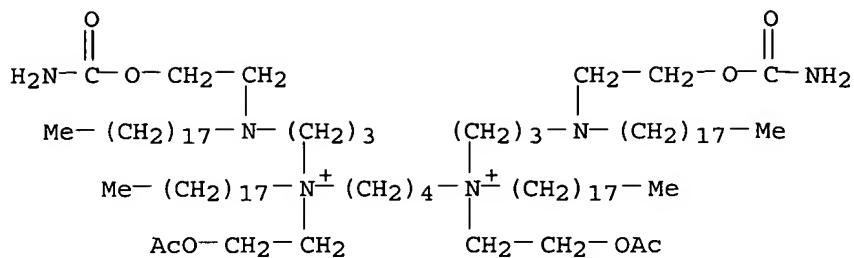
CM 2

CRN 71-50-1
CMF C2 H3 O2

RN 199805-14-6 HCPLUS
 CN 1,4-Butanediaminium, N,N'-bis[2-(acetyloxy)ethyl]-N,N'-bis[3-[(2-[(aminocarbonyl)oxy]ethyl)octadecylamino]propyl]-N,N'-dioctadecyl-, dichloride (9CI) (CA INDEX NAME)

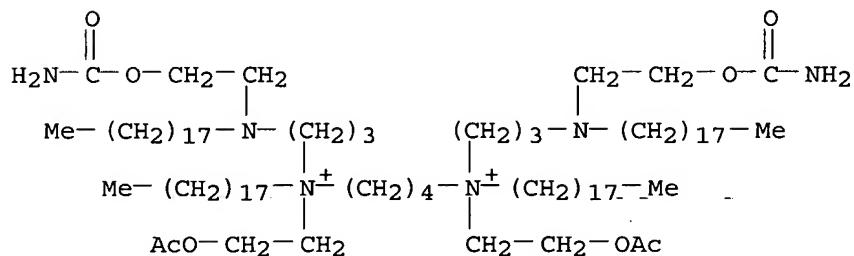
●2 Cl⁻

RN 199805-15-7 HCPLUS
 CN 1,4-Butanediaminium, N,N'-bis[2-(acetyloxy)ethyl]-N,N'-bis[3-[(2-[(aminocarbonyl)oxy]ethyl)octadecylamino]propyl]-N,N'-dioctadecyl-, dibromide (9CI) (CA INDEX NAME)

●2 Br⁻

RN 199805-16-8 HCAPLUS

CN 1,4-Butanediaminium, N,N'-bis[2-(acetyloxy)ethyl]-N,N'-bis[3-[(2-[(aminocarbonyl)oxy]ethyl]octadecylamino]propyl]-N,N'-dioctadecyl-, diiodide (9CI) (CA INDEX NAME)

●2 I⁻

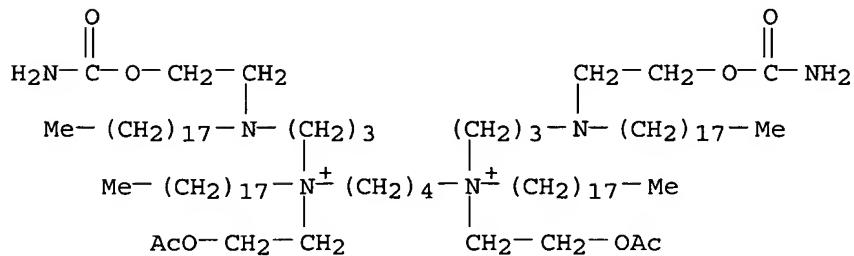
RN 199805-18-0 HCAPLUS

CN 1,4-Butanediaminium, N,N'-bis[2-(acetyloxy)ethyl]-N,N'-bis[3-[(2-[(aminocarbonyl)oxy]ethyl]octadecylamino]propyl]-N,N'-dioctadecyl-, diacetate (9CI) (CA INDEX NAME)

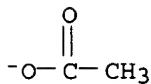
CM 1

CRN 199805-17-9

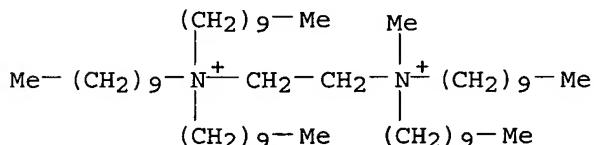
CMF C96 H194 N6 O8



CM 2

CRN 71-50-1
CMF C2 H3 O2

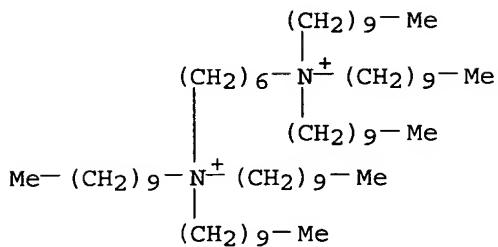
L21 ANSWER 3 OF 46 HCPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1997:187253 HCPLUS
 DOCUMENT NUMBER: 126:321461
 TITLE: Interaction of water-insoluble quaternary ammonium salts with the hydrated silica surface
 AUTHOR(S): Turov, V. V.; Zaporozhets, O. A.; Nadzhafova, O. Yu.; Sukhan, V. V.
 CORPORATE SOURCE: Inst. Khim. Poverkhn., NAN Ukr., Kiev, 252039, Ukraine
 SOURCE: Teoreticheskaya i Eksperimental'naya Khimiya (1996), 32(6), 376-379
 CODEN: TEKHA4; ISSN: 0497-2627
 PUBLISHER: Institut Fizicheskoi Khimii im. L. V. Pisarzhevskogo
 AN Ukrainskogo
 DOCUMENT TYPE: Journal
 LANGUAGE: Russian
 AB Interaction of the hydrated surface of silica with high-mol. weight quaternary ammonium salts (QAS) was studied using ^1H NMR of the adsorbed mols. in the conditions of liquid phase freeze-out. The QAS differed in the structure of the hydrophilic part of the mol. and in the distance between the nitrogen atoms. The approach permits not only to study changes in the hydration shell of adsorbents upon adsorption of complex. organic mols with several types of reaction centers but also to estimate the efficacy of the adsorption.
 IT 189328-18-5 189328-19-6
 RL: PEP (Physical, engineering or chemical process); PROC (Process) (NMR study of interaction of water-insol. quaternary ammonium salts with hydrated silica surface)
 RN 189328-18-5 HCPLUS
 CN 1,2-Ethanediiminium, N,N,N,N',N'-pentakis(decyl)-N'-methyl-, diiodide (9CI) (CA INDEX NAME)



●2 I-

RN 189328-19-6 HCPLUS
 CN 1,6-Hexanediaminium, N,N,N,N',N'-hexakis(decyl)-, diiodide (9CI) (CA

INDEX NAME)



● 2 I-

L21 ANSWER 4 OF 46 HCPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1996:613526 HCPLUS

DOCUMENT NUMBER: 125:277334

TITLE: ToF-SIMS study of alternate polyelectrolyte thin films: chemical surface characterization and molecular secondary ions sampling depth

AUTHOR(S): Delcorte, A.; Bertrand, P.; Arys, X.; Jonas, A.; Wischerhoff, E.; Mayer, B.; Laschewsky, A.

CORPORATE SOURCE: Unite Physico-Chimie Physique Materiaux, Universite Catholique Louvain, Louvain-la-Neuve, B-1348, Belg.

SOURCE: Surface Science (1996), 366(1), 149-165

CODEN: SUSCAS; ISSN: 0039-6028

PUBLISHER: Elsevier

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Multilayered assemblies of alternate polyelectrolytes were synthesized by dipping charged silicon wafers successively into solns. of polyelectrolytes of opposite charge. Three types of assemblies and several thicknesses were investigated by time-of-flight secondary ion mass spectrometry (ToF-SIMS), in combination with other characterization techniques (XPS, x-ray reflectivity (XRR) and atomic force microscopy (AFM)). The sensitivity of ToF-SIMS to the extreme surface provides a powerful tool to verify the chemical structure, as well as the spatial homogeneity of the topmost layers. Monolayers of complex polyelectrolytes differing only by the end of the pendant group or by the monomer chain length can be distinguished easily, notwithstanding the interference with the information coming from the underlying layers. The chemical imaging capability of ToF-SIMS allows the identification of the defects and contaminants in the surface layer, as well as the verification of the thickness uniformity at a local scale (.apprx.1 μm). In addition, the proof of a regular build-up is given by the disappearance of the substrate signal (Si^+) when the number of layers increases. On the other hand, the question of the information depth in ToF-SIMS, which constitutes an important issue for the characterization of very thin films, is addressed. The attenuation depth in the organic film is determined for atomic and mol. secondary ions (Si^+ , SiOH^+ , SiO_3H^-), mainly by correlation with XPS and XRR data. The decay of the mean emission depth when the ion size increases makes the largest mol. ions the most surface sensitive.

IT 182972-05-0

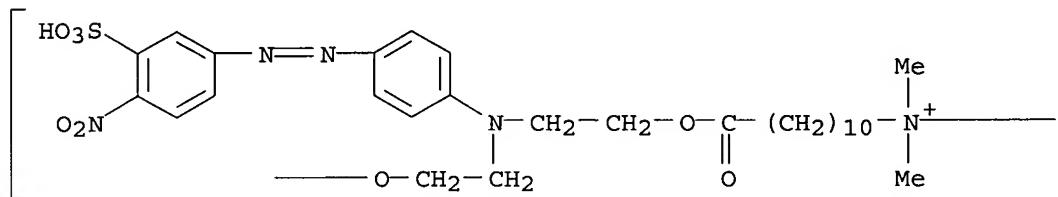
RL: PRP (Properties)

(secondary ion emission processes in chemical surface characterization of multilayered assemblies of alternate anionic and cationic polyelectrolyte thin films by time-of-flight secondary-ion mass spectrometry)

RN 182972-05-0 HCPLUS

CN Poly[oxy-1,2-ethanediyl{[4-[(4-nitro-3-sulfophenyl)azo]phenyl]imino}-1,2-ethanediyoxy(1-oxo-1,11-undecanediyl)(dimethyliminio)-1,3-propanediyl(dimethyliminio)(11-oxo-1,11-undecanediyl) dibromide sodium salt] (9CI) (CA INDEX NAME)

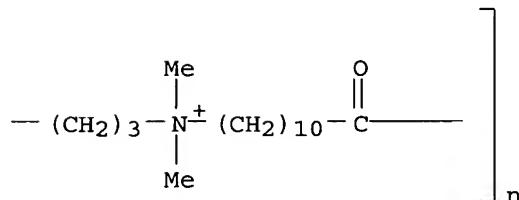
PAGE 1-A



● 2 Br^-

● Na

PAGE 1-B



L21 ANSWER 5 OF 46 HCPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1995:598997 HCPLUS
 DOCUMENT NUMBER: 123:49550
 TITLE: Disturbances in rat smooth muscle induced by a substance with fungicide action
 AUTHOR(S): Milieva, E.; Kristev, A.; Stoichev, N.; Nikolov, A.; Nikolov, N.
 CORPORATE SOURCE: Department of Physics & Biophysics, Medical University, Plovdiv, Bulg.
 SOURCE: Journal of Applied Toxicology (1995), 15(3), 219-22
 CODEN: JJATDK; ISSN: 0260-437X
 PUBLISHER: Wiley

DOCUMENT TYPE: Journal
 LANGUAGE: English

AB The fungicide substance QAS [N,N,N',N'-tetramethyl-N,-N'-di(8,15-dichloropentadeca-5,10-dien)ethylenediamine Me sulfate] has a biphasic effect on the spontaneous elec. and mech. activity of smooth-muscle samples of rat corpus and guinea pig tenia coli. During the first phase of QAS application membrane depolarization and increased spontaneous spike frequency were recorded. The tone of the prepns. (resting tone) increased transiently. Calcium ion-entry blockers did not affect the contractile effect of QAS, but K+-channel blockers and some modulators of the second messenger system abolished or decreased it. During the second phase depolarization increased progressively, spike frequency decreased and the increase in testing tone recorded during the first phase was eliminated. The results reveal that the long-lasting depolarizing effect of QAS (in concentration used for plant protection) probably inactivates the entry of Ca²⁺ into the smooth-muscle cells and disturbs Ca²⁺ homeostasis.

IT 164533-74-8

RL: ADV (Adverse effect, including toxicity); BIOL (Biological study) (fungicide toxicity to smooth muscle)

RN 164533-74-8 HCAPLUS

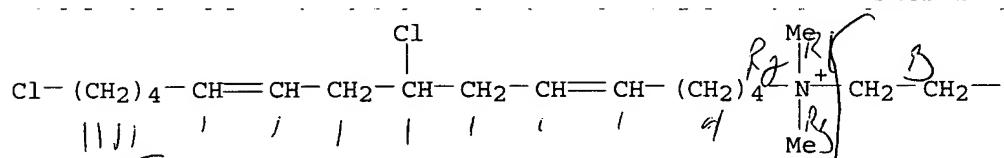
CN 1,2-Ethanediuminium, N,N'-bis(8,15-dichloro-5,10-pentadecadienyl)-N,N,N',N'-tetramethyl-, bis(methyl sulfate) (9CI) (CA INDEX NAME)

CM 1

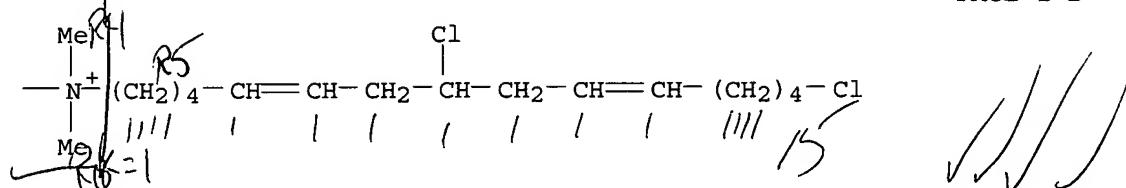
CRN 164533-73-7

CMF C36 H66 Cl4 N2

PAGE 1-A



PAGE 1-B



CM 2

CRN 21228-90-0

CMF C H3 O4 S

Me-O-SO₃⁻

L21 ANSWER 6 OF 46 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1993:503407 HCAPLUS

DOCUMENT NUMBER: 119:103407

TITLE: Diammonium salts and disinfectants containing them
 INVENTOR(S): Ishikawa, Hiroshi; Toyama, Yukio; Tamaoka, Hisashi
 PATENT ASSIGNEE(S): Otsuka Pharma Co Ltd, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 05085992	A2	19930406	JP 1991-248902	19910927 <--
PRIORITY APPLN. INFO.:			JP 1991-248902	19910927

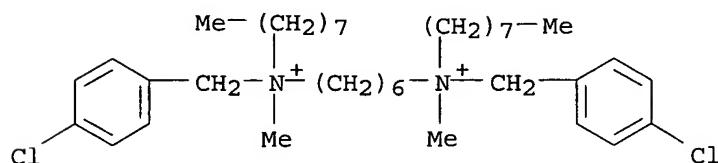
OTHER SOURCE(S): MARPAT 119:103407
 AB [R₃CH₂N+R₁R₂AN+R₁R₂CH₂R₃]₂X- (R₁ = substituted Ph; R₂ = lower alkyl; R₃ = C₅-10 alkyl; A = C₂-8 alkylene group; X = anion) are useful for disinfectants. Hexanoyl chloride was added dropwise to CH₂Cl₂-pyridine solution containing hexamethylenediamine at 0° within 20 min and the mixture was stirred at room temperature for 30 min to give 57.6% N,N'-dihexanoylhexamethylenediamide, which was refluxed with LiAlH₄ in THF for 4 h, followed by refluxing with EtOH, HCO₂H, and HCHO for 30 min to give 61.3% N,N'-dihexyl-N,N'-dimethylhexamethylenediamine (I). I was refluxed with PhCH₂Cl in AcOEt for 5 h to give 33.0% N,N'-dimethyl-N,N'-dihexyl-N,N'-dibenzylhexamethylenediammonium dichloride (II). N,N'-dimethyl-N,N'-dioctyl-N,N'-(3,4-dichlorobenzyl)hexamethylenediammonium dichloride inhibited *Staphylococcus aureus*, *Escherichia coli*, and *Klebsiella pneumoniae* with min. inhibitory concns. of 3.13, 12.5, and 12.5 µg/mL, resp., vs. 6.25, 3.13, and ≤1.56 µg/mL, resp., for chlorhexidine glucuronate. II 5, polyoxyethylene nonylphenyl ether 3.75, and H₂O to 100 mL were mixed to give a disinfectant.

IT 149358-43-0P 149358-44-1P 149358-48-5P
149379-25-9P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation and bactericidal activity of, for disinfectants)

RN 149358-43-0 HCPLUS

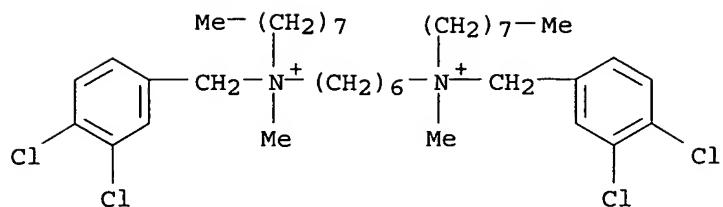
CN 1,6-Hexanediaminium, N,N'-bis[(4-chlorophenyl)methyl]-N,N'-dimethyl-N,N'-dioctyl-, dichloride (9CI) (CA INDEX NAME)



●2 Cl⁻

RN 149358-44-1 HCPLUS

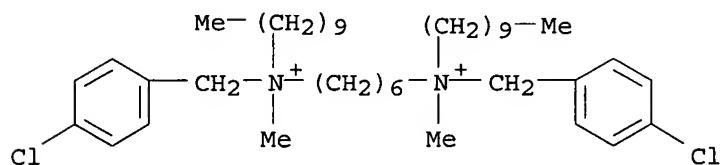
CN 1,6-Hexanediaminium, N,N'-bis[(3,4-dichlorophenyl)methyl]-N,N'-dimethyl-N,N'-dioctyl-, dichloride (9CI) (CA INDEX NAME)



●2 Cl-

RN 149358-48-5 HCPLUS

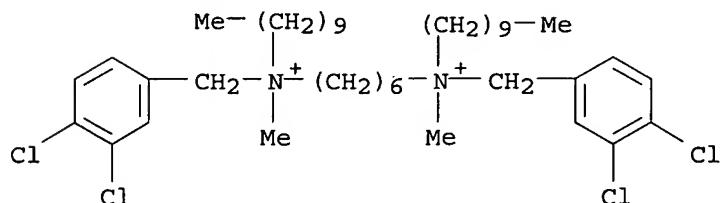
CN 1,6-Hexanediaminium, N,N'-bis[(4-chlorophenyl)methyl]-N,N'-didecyl-N,N'-dimethyl-, dichloride (9CI) (CA INDEX NAME)



●2 Cl-

RN 149379-25-9 HCPLUS

CN 1,6-Hexanediaminium, N,N'-didecyl-N,N'-bis[(3,4-dichlorophenyl)methyl]-N,N'-dimethyl-, dichloride (9CI) (CA INDEX NAME)



●2 Cl-

L21 ANSWER 7 OF 46 HCPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1993:485082 HCPLUS

DOCUMENT NUMBER: 119:85082

TITLE: Photometric method for determination of naphthalene disulfonate

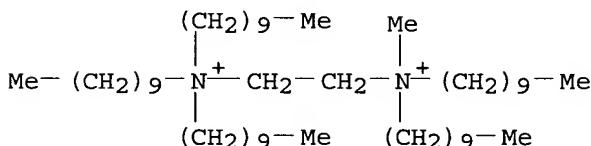
INVENTOR(S): Gulevich, Aleksandr L.; Snigireva, Natalya M.; Rakhmanko, Evgenij M.

PATENT ASSIGNEE(S): Nii fiziko-khimicheskikh problem bruss g univ

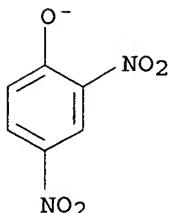
SOURCE: im.v.i.lenina, USSR
 U.S.S.R. From: Izobreteniya 1992, (41), 140.
 CODEN: URXXAF

DOCUMENT TYPE: Patent
 LANGUAGE: Russian
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
SU 1774236	A1	19921107	SU 1990-4884772	19901126 <--
PRIORITY APPLN. INFO.:			SU 1990-4884772	19901126
AB	In the method, the sample is treated with an extraction agent in an alkaline medium and the aqueous phase is separated and subsequently evaluated by photometry.			
To	increase the selectivity of the determination, methylpentadecylethylenediammonium 2,4-dinitrophenolate is used as the extraction agent.			
IT	148942-79-4 RL: ANST (Analytical study) (in determination of naphthalene disulfonates by photometry)			
RN	148942-79-4 HCPLUS			
CN	1,2-Ethanediaminium, N,N,N,N',N'-pentakis(decyl)-N'-methyl-, salt with 2,4-dinitrophenol (1:1) (9CI) (CA INDEX NAME)			
CM	1			
CRN	120003-70-5			
CMF	C53 H112 N2			



CM 2

CRN 20350-26-9
CMF C6 H3 N2 O5

L21 ANSWER 8 OF 46 HCPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1991:525985 HCPLUS
 DOCUMENT NUMBER: 115:125985

TITLE: Evaluation of new organoclay stationary phases for the separation of ethylbenzene and xylene isomers
 AUTHOR(S): Zlatakis, A.; Jiao, J.
 CORPORATE SOURCE: Dep. Chem., Univ. Houston, Houston, TX, 77204, USA
 SOURCE: Chromatographia (1991), 31(9-10), 457-64
 CODEN: CHRGB7; ISSN: 0009-5893

DOCUMENT TYPE: Journal
 LANGUAGE: English

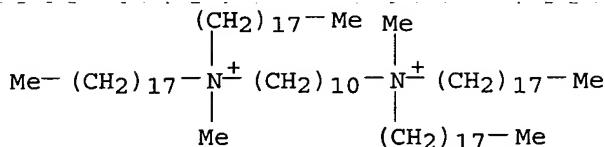
AB Several kinds of Bentones which have structures similar to Bentone 34 have been tested and compared for the purpose of improving the resolution of ethylbenzene and xylene isomers by gas chromatog. Bentone SD-3 was found to have higher selectivity toward these close-boiling compds. than the well known stationary phase Bentone 34. Modification effects of some conventional stationary phases which represent the whole range of polarity on the chromatog. property of Bentone SD-3 have been investigated and discussed. A number of new organoclays which have different structures of the organic cation in complexes have been synthesized and their properties evaluated for the separation of positional isomers. A simultaneously high-selectivity organoclay for each component in the aromatic mixture of ethylbenzene and xylene isomers, without assistance of conventional stationary phases, has been described.

IT 135926-82-8

RL: ANST (Analytical study)
 (bentonite stationary phases treated by, ethylbenzene and xylene isomer separation by gas chromatog. on)

RN 135926-82-8 HCAPLUS

CN 1,10-Decanediaminium, N,N'-dimethyl-N,N',N'-tetraoctadecyl-, chloride (9CI) (CA INDEX NAME)



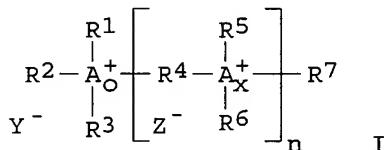
● Cl -

L21 ANSWER 9 OF 46 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1991:513273 HCAPLUS
 DOCUMENT NUMBER: 115:113273
 TITLE: Phosphonium bactericides for food
 INVENTOR(S): Legros, Alain
 PATENT ASSIGNEE(S): Fabricom Air Conditioning S. A., Belg.
 SOURCE: PCT Int. Appl., 58 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: French
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9105003	A1	19910418	WO 1990-BE56	19901009 <--
W: AU, CA, JP, NO, US				

RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, NL, SE
 BE 1003510 A5 19920407 BE 1989-1081 19891009 <--
 AU 9064158 A1 19910428 AU 1990-64158 19901009 <--
 EP 495802 A1 19920729 EP 1990-914105 19901009 <--
 R: BE, DE, ES, FR, IT
 ES 2074169 T3 19950901 ES 1990-914486 19901009 <--
 PRIORITY APPLN. INFO.: BE 1989-1081 A 19891009
 WO 1990-BE56 A 19901009

GI



AB The preparation of quaternary phosphonium compds. [I; $n \geq 2$, $x = 1$ to n , A = N or P with at least one non-terminal P; R2, R7 = (substituted) alkyl or alkenyl; R1, R3, R5, R6 = (substituted) C<22 alkyl or alkenyl; R4 = C<16 alkyl, optionally bridge by S- and/or O-containing group; Y, Z = counterions, preferably halide] for use as bactericides for food or drink are described. 1,6-bis-(Diphenylphosphine) hexane in CH₂Cl₂ and 1,3-dibromopropane were incubated at 135° under Ar for 3 h. The reaction product was incubated with a 2-fold molar excess of bromohexadecane under Ar at 140° for 4 h to yield compound B1 (I; n = 3; x = 3; A = P; R2, R7 = C₁₆H₃₃; R1, R5 = Ph; R3, R6 = bromophenyl; R4 = C₃H₆ or C₆H₁₂). Suspensions of Escherichia coli were exposed to 2 ppm of B1 for 1-15 min. After 15 min the titer of the cultures had dropped to 0.001% of controls. A prior art quaternary ammonium compound A9 reduced the titer to 0.013% of controls. For some bacteria the addition of Cu or Ag at 1 ppm to the compds. of the invention was synergistic.

IT 135238-50-5P 135238-51-6P 135238-55-0P

135238-59-4P 135238-60-7P

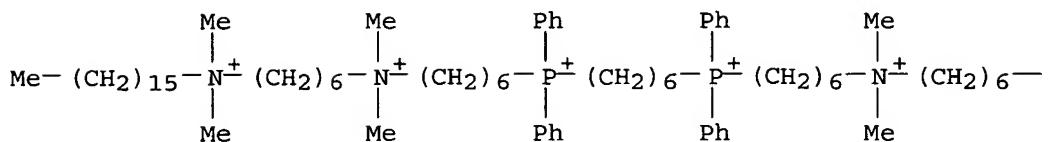
RL: PREP (Preparation)

(preparation of, as bactericide)

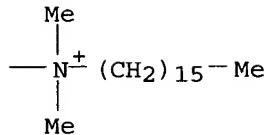
RN 135238-50-5 HCPLUS

CN 7,28-Diazonia-14,21-diphosphonatetracontane-1,34-diaminium, N,N'-dihexadecyl-N,N,N',N',7,7,28,28-octamethyl-14,14,21,21-tetraphenyl-, tetrabromide dichloride (9CI) (CA INDEX NAME)

PAGE 1-A

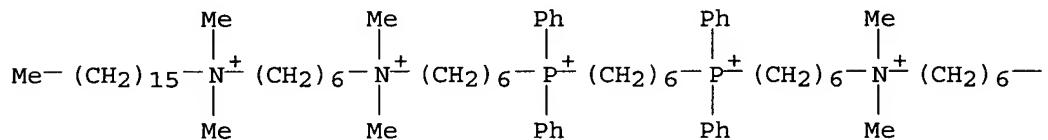
● 4 Br⁻● 2 Cl⁻

PAGE 1-B

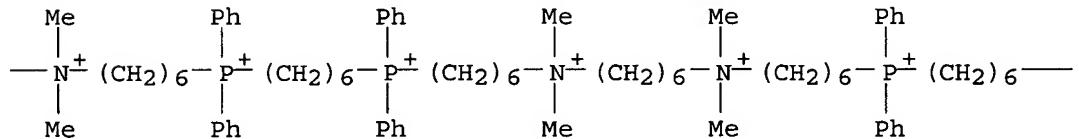


RN 135238-51-6 HCAPLUS
 CN 7,28,35,56,63,84-Hexaazonia-14,21,42,49,70,77-hexaphosphonianonacontane-
 1,90-diaminium, N,N'-dihexadecyl-N,N,N',N',7,7,28,28,35,35,56,56,63,63,84,
 84-hexadecamethyl-14,14,21,21,42,42,49,49,70,70,77,77-dodecaphenyl-,
 tetradecabromide (9CI) (CA INDEX NAME)

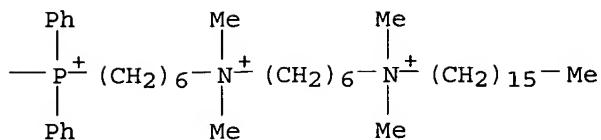
PAGE 1-A

● 14 Br⁻

PAGE 1-B



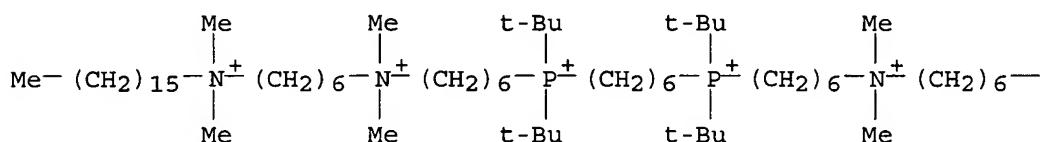
PAGE 1-C



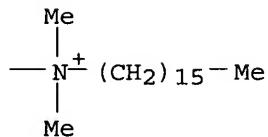
RN 135238-55-0 HCAPLUS

CN 7,28-Diazonia-14,21-diphosphoniatetracontane-1,34-diaminium,
14,14,21,21-tetrakis(1,1-dimethylethyl)-N,N'-dihexadecyl-
N,N,N',N',7,7,28,28-octamethyl-, hexabromide (9CI) (CA INDEX NAME)

PAGE 1-A

● 6 Br⁻

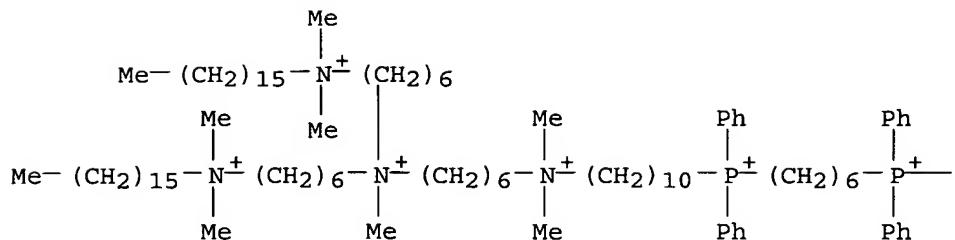
PAGE 1-B



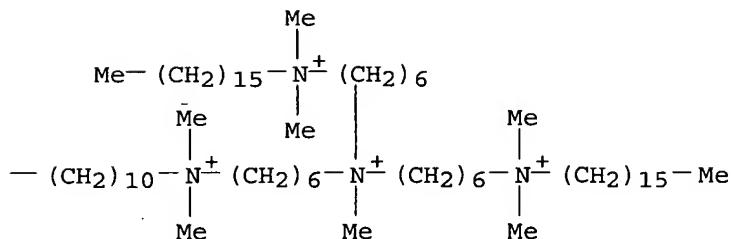
RN 135238-59-4 HCAPLUS

CN 7,14,43,50-Tetraazonia-25,32-diphosphoniahexamethylenecyclotriphosphazene-1,56-diaminium,
N,N'-dihexadecyl-7,50-bis[6-(hexadecyldimethylammonio)hexyl]-
N,N,N',N',7,14,14,43,43,50-decamethyl-25,25,32,32-tetr phenyl-, dibromide
octachloride (9CI) (CA INDEX NAME)

PAGE 1-A

● 2 Br⁻● 8 Cl⁻

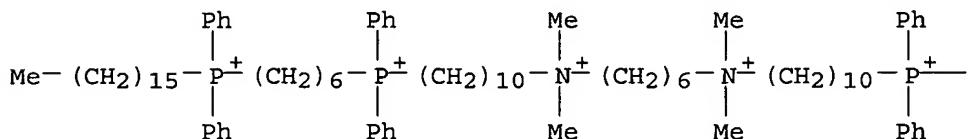
PAGE 1-B



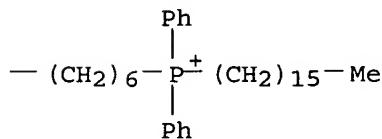
RN 135238-60-7 HCAPLUS

CN 1,6-Hexanediaminium, N,N'-bis[10-[[6-(hexadecyldiphenylphosphonio)hexyl]di phenylphosphonio]decyl]-N,N,N',N'-tetramethyl- (9CI) (CA INDEX NAME)

PAGE 1-A

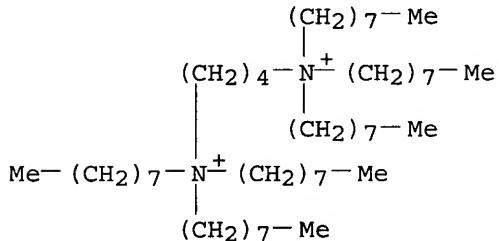


PAGE 1-B

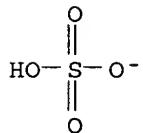


L21 ANSWER 10 OF 46 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1989:484893 HCAPLUS
 DOCUMENT NUMBER: 111:84893
 TITLE: Bisquaternary ammonium salts as phase transfer catalysts
 AUTHOR(S): Lissel, Manfred; Feldman, David; Nir, Malka; Rabinovitz, Mordecai
 CORPORATE SOURCE: Dep. Org. Chem., Hebrew Univ. Jerusalem, Jerusalem, 91904, Israel
 SOURCE: Tetrahedron Letters (1989), 30(13), 1683-6
 CODEN: TELEAY; ISSN: 0040-4039
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Bis-quaternary ammonium salts were used for the extraction of polyanions and show better extractive abilities than common phase transfer catalysts.
 IT 122161-38-0
 RL: CAT (Catalyst use); USES (Uses)
 (catalysts, polyanion loading of)
 RN 122161-38-0 HCAPLUS
 CN 1,4-Butanediaminium, N,N,N,N',N',N'-hexaoctyl-, sulfate (1:2) (9CI) (CA INDEX NAME)

CM 1

CRN 122161-37-9
CMF C52 H110 N2

CM 2

CRN 14996-02-2
CMF H O4 S

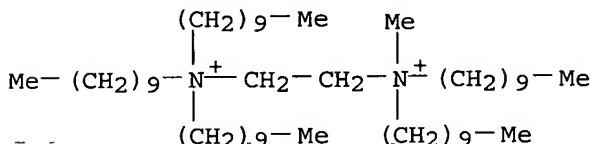
L21 ANSWER 11 OF 46 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1989:161143 HCAPLUS
 DOCUMENT NUMBER: 110:161143
 TITLE: Anion exchange extraction of cadmium iodide complexes by bis(quaternary ammonium) salts
 AUTHOR(S): Rakhman'ko, E. M.; Tsvirko, G. A.; Gulevich, A. L.;

CORPORATE SOURCE: Leshchnev, S. M.
 SOURCE: BGU, Moscow, USSR
 Zhurnal Neorganicheskoi Khimii (1989),
 34(1), 169-72
 CODEN: ZNOKAQ; ISSN: 0044-457X
 DOCUMENT TYPE: Journal
 LANGUAGE: Russian
 AB The extraction of Cd from iodide solns. by mono- and bisquaternary ammonium salts was studied by an intermediate exchange method involving acid dye anions. The resp. exchange consts. were determined. The bisquaternary compds. extract Cd as CdI42- with exchange consts. 3 orders of magnitude higher than those for extraction by monoquaternary compds.
 IT 120003-71-6
 RL: PRP (Properties)
 (extraction by, of cadmium from aqueous iodide)
 RN 120003-71-6 HCPLUS
 CN 1,2-Ethanediaminium, N,N,N,N',N'-penta(decyl)-N'-methyl-, salt with 2,4,6-trinitrophenol (1:2) (9CI) (CA INDEX NAME)

CM 1

CRN 120003-70-5

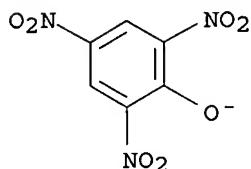
CMF C53 H112 N2



CM 2

CRN 14798-26-6

CMF C6 H2 N3 O7



L21 ANSWER 12 OF 46 HCPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1987:477262 HCPLUS
 DOCUMENT NUMBER: 107:77262
 TITLE: Di-, tri-, tetra-, and pentacationic alkylammonium salts. Ligands designed to prevent the nonspecific electrostatic precipitation of polyanionic, functionalized cyclopentadienyltitanium-substituted heteropolytungstate electron microscopy labels with cationic biomolecules
 AUTHOR(S): Keana, John F. W.; Wu, Yixin; Wu, Guanli
 CORPORATE SOURCE: Dep. Chem., Univ. Oregon, Eugene, OR, 97403, USA
 SOURCE: Journal of Organic Chemistry (1987), 52(12),

2571-6
CODEN: JOCEAH; ISSN: 0022-3263

DOCUMENT TYPE:

Journal

LANGUAGE:

English

OTHER SOURCE(S):

CASREACT 107:77262

AB A number of title ligands were prepared. Of these, only $[R_2N+Me(CH_2CH_2N+MeR)CH_2CH_2N+MeR_2] \cdot 4Cl^-$ ($R =$ highly oxygenated alkyl group) prevented precipitation during treatment of lysozyme, concanavalin A, and poly-L-lysine with Keggin- and Dawson-type heteropolytungstates.

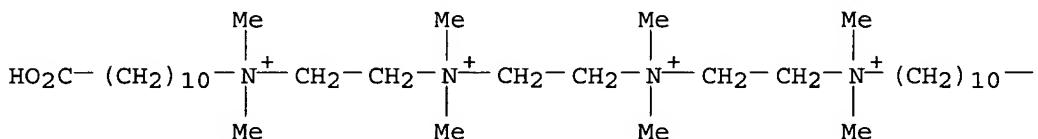
IT 108213-15-6P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 108213-15-6 HCPLUS

CN 1,2-Ethanediiminium, N,N'-bis[2-[(10-carboxydecyl)dimethylammonio]ethyl]-N,N,N',N'-tetramethyl-, tetrachloride (9CI) (CA INDEX NAME)

PAGE 1-A

● 4 Cl⁻

PAGE 1-B

— CO₂H

L21 ANSWER 13 OF 46 HCPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1986:20689 HCPLUS
 DOCUMENT NUMBER: 104:20689
 TITLE: Cationic compound dyeing assistants for fibers
 INVENTOR(S): Nakao, Katsuaki
 PATENT ASSIGNEE(S): Ipposha Oil Industries Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 14 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 60134080	A2	19850717	JP 1983-238484	19831216 <--
US 4615709	A	19861007	US 1984-682457	19841217 <--

PRIORITY APPLN. INFO.: JP 1983-238484 A 19831216
 AB In dyeing natural fibers, synthetic fibers, or their blends with anionic, direct, reactive, acid, indigo, or vat dyes, colorfastness is improved by

treating the fibers with $[RNR2ZNR21R] (2+n) + . (2+n)X-$, where Z is C1-8 alkylene group substituted with OH group or $(CH_2)_p[NR1R(CH_2)_q]_n$, where p or q is 1-8, n is 0-2, X is a halogen, R1 is C1-4 alkyl or unsatd. alkyl group or its substituted derivative, and R is $CH_2CH(OH)CH_2X$ or glycidyl group, before or after the dyeing step. Thus, 172 g N,N,N',N'-tetramethyl-1,6-hexamethylenediamine [111-18-2] was treated with 270 g 1,3-dichloro-2-propanol [96-23-1] to give hexamethylenebis(3-chloro-2-hydroxypropyl)dimethylammonium chloride (I) [96550-06-0]. A vinal fabric was treated with aqueous 3.2% I for 0.5 min at room temperature, squeezed to

80%

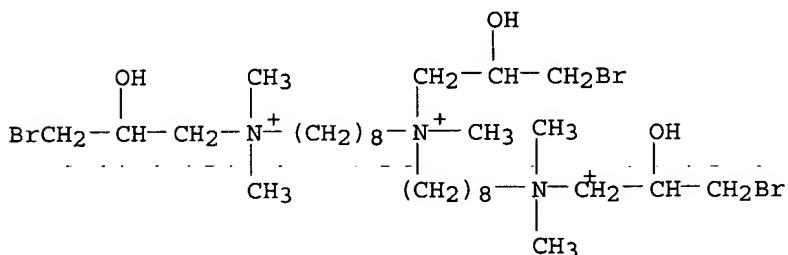
pickup, dried, washed, and dried. The pretreated fabric was dyed with a liquor containing 3% (on fiber weight) Remazol Brilliant Red H-38 for 30 min at 60° and washed to give a red fabric with excellent fastness to washing, storage, bleeding and light.

IT 99580-36-6

RL: USES (Uses)

(colorfastness-improving agents, for dyeing of textiles with anionic dyes)

RN 99580-36-6 HCPLUS

CN 1,8-Octanediaminium, N,N'-bis(3-bromo-2-hydroxypropyl)-N-[8-[(3-bromo-2-hydroxypropyl)dimethylammonio]octyl]-N,N',N'-trimethyl-, tribromide (9CI)
(CA INDEX NAME)

●3 Br-

L21 ANSWER 14 OF 46 HCPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1984:144822 HCPLUS

DOCUMENT NUMBER: 100:144822

TITLE: Hair and cosmetic compositions containing quaternized polymer

INVENTOR(S): Jacquet, Bernard; Lang, Gerard

PATENT ASSIGNEE(S): Oreal S. A., Fr.

SOURCE: U.S., 27 pp. Cont.-in-part of U.S. 4,217,914.

CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 5

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 4422853	A	19831227	US 1980-163411	19800626 <--
BE 829081	A1	19751114	BE 1975-156359	19750514 <--
AT 369261	B	19821227	AT 1975-8647	19751113 <--

AT 7508647	A	19800915		
US 4217914	A	19800819	US 1977-849657	19771108 <--
AT 8004115	A	19850615	AT 1980-4115	19800811 <--
AT 379509	B	19860127		
US 4948579	A	19900814	US 1983-545770	19831026 <--
US 5196189	A	19930323	US 1992-897483	19920612 <--

PRIORITY APPLN. INFO.:

LU 1974-70096	A 19740516
LU 1975-71849	A 19750214
US 1975-577836	A2 19750515
US 1977-849657	A2 19771108
AT 1975-8647	A 19751113
US 1977-849667	A2 19771108
US 1980-163411	A3 19800626
US 1983-545770	A3 19831026
US 1990-527948	B1 19900423

AB Hair dyeing and skin compns. contain a quaternized polymer having a recurring unit, $[N+RR1AN+RR1B- 2X-]$ (R = alkyl or CH_2CH_2OH ; R1 = $C>20$ alkyl or cycloalkyl or benzyl; NRR1 = heterocyclic; A and B = xylylidene, etc.; X = anion). The recurring unit can be prepared by several methods, e.g. polycondensation of a di-tert-diamine and a dihalide at 20-100°. Thus, an oxidation hair dye cream support was prepared containing N,N'-dibutyl-N,N'-dimethylhexamethylenediamine-1,6-dibromohexane copolymer [58295-93-5] 5, common ingredients, and water to 100 g. This cream (30 g) mixed with 45 g H_2O_2 (20 volume) produced a glossy and thick cream, pleasant to apply and which adheres well to the hair. The cream remains in contact with the hair for 30 min, after which the hair is rinsed and dried. When applied to 100% white hair, a blonde color is obtained, and the hair, wet or dry, is easy to untangle and has shiny appearance, and a pleasant and silky feel.

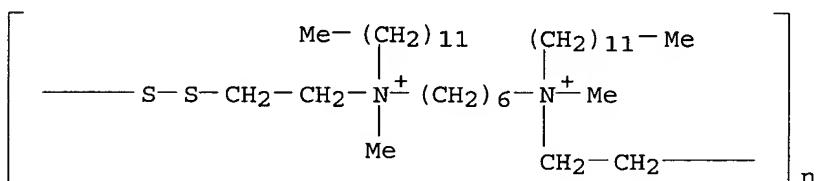
IT 58295-15-1P 58295-17-3P 59407-59-9P
59407-65-7P 59407-95-3P

RL: PREP (Preparation)

(preparation of, for cosmetic and hair preps.)

RN 58295-15-1 HCPLUS

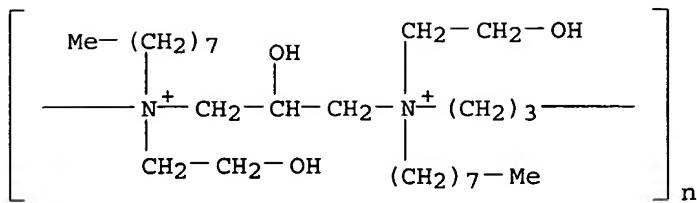
CN Poly[dithio-1,2-ethanediyl(dodecylmethylinio)-1,6-hexanediyl(dodecylmethylinio)-1,2-ethanediyl dibromide] (9CI) (CA INDEX NAME)



●2 Br^-

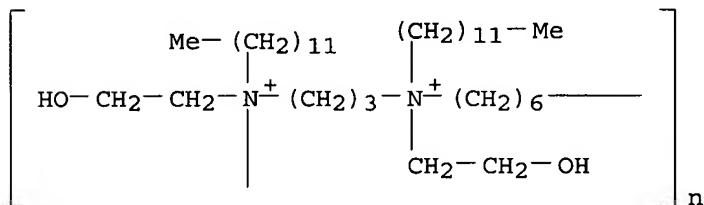
RN 58295-17-3 HCPLUS

CN Poly[(2-hydroxyethyl)octylinio](2-hydroxy-1,3-propanediyl)[(2-hydroxyethyl)octylinio]-1,3-propanediyl dibromide] (9CI) (CA INDEX NAME)

●2 Br⁻

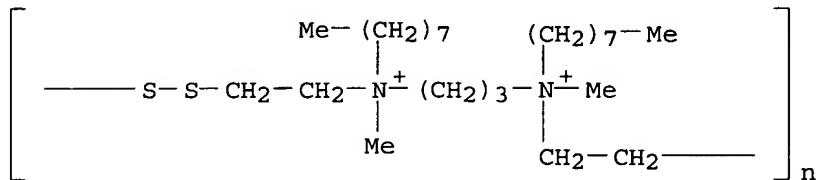
RN 59407-59-9 HCPLUS

CN Poly[[dodecyl(2-hydroxyethyl)iminio]-1,3-propanediyl[dodecyl(2-hydroxyethyl)iminio]-1,6-hexanediyyl dibromide] (9CI) (CA INDEX NAME)

●2 Br⁻

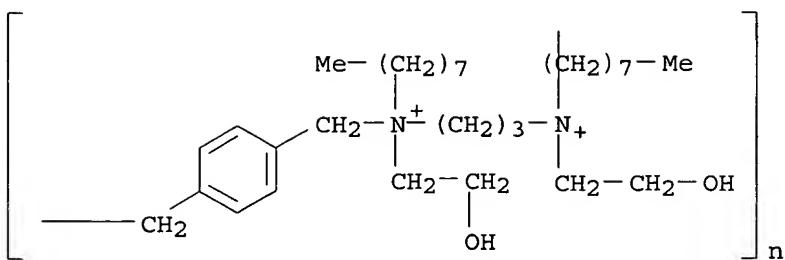
RN 59407-65-7 HCPLUS

CN Poly[dithio-1,2-ethanediyl(methyloctyliminio)-1,3-propanediyl(methyloctyliminio)-1,2-ethanediyl dibromide] (9CI) (CA INDEX NAME)

●2 Br⁻

RN 59407-95-3 HCPLUS

CN Poly[[2-hydroxyethyl)octyliminio]-1,3-propanediyl[(2-hydroxyethyl)octyliminio]methylene-1,4-phenylenemethylene dibromide] (9CI) (CA INDEX NAME)



●2 Br⁻

L21 ANSWER 15 OF 46 HCPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1983:88812 HCPLUS
DOCUMENT NUMBER: 98:88812
TITLE: Quaternary ammonium compounds
INVENTOR(S): Rutzen, Horst; Nikolaus, Peter; Bischoff, Martin;
Lehmann, Rudolf
PATENT ASSIGNEE(S): Henkel K.-G.a.A., Fed. Rep. Ger.; Degussa A.-G.
SOURCE: Ger. Offen., 20 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 3116087	A1	19821111	DE 1981-3116087	19810423 <--
EP 68089	A2	19830105	EP 1982-103155	19820415 <--
EP 68089	A3	19840905		
EP 68089	B1	19861230		
EP 68089	B2	19920415		
R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE				
AT 24480	E	19870115	AT 1982-103155	19820415 <--
US 4492802	A	19850108	US 1982-369760	19820419 <--
JP 57181044	A2	19821108	JP 1982-64831	19820420 <--
JP 03072055	B4	19911115		
ZA 8202757	A	19830330	ZA 1982-2757	19820422 <--
BR 8202350	A	19830405	BR 1982-2350	19820423 <--
PRIORITY APPLN. INFO.:				
			DE 1981-3116087	A 19810423
			EP 1982-103155	A 19820415

AB Quaternary ammonium salts suitable for use as germicides and fabric softeners (no data) were prepared by treating α -olefin epoxides with tertiary amines in the presence of a quaternary salt as catalyst. Thus, 98.6 g 37% HCl were added dropwise to 148.8 g 43.7% aqueous Me₃N in 891 g H₂O, 247.6 g 1,2-epoxyhexadecane and 7.0 g 75 (C₁₈H₃₇)₂NMe₂Cl, 15 Me₂CHOH, and 10% H₂O mixture added, and the whole was heated 5 h at 80° to give (2-hydroxyhexadecyl)trimethylammonium chloride.

IT 84643-57-2P 84643-59-4P
RL: SPN (Synthetic preparation); PREP (Preparation)

(preparation of)

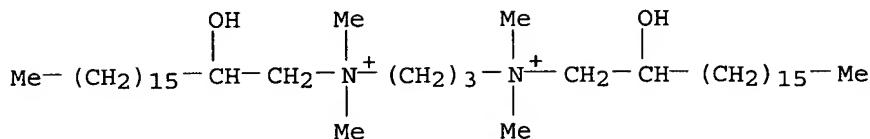
RN 84643-57-2 HCPLUS
CN 1-(3-Propenylaminium)-N,N,N',N'-bis(2-hydroxyoctadecyl)-N,N,N',N'-tetramethyl-

phosphate (1:1) (salt) (9CI) (CA INDEX NAME)

CM 1

CRN 84643-56-1

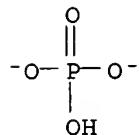
CMF C43 H92 N2 O2



CM 2

CRN 14066-19-4

CMF H O4 P



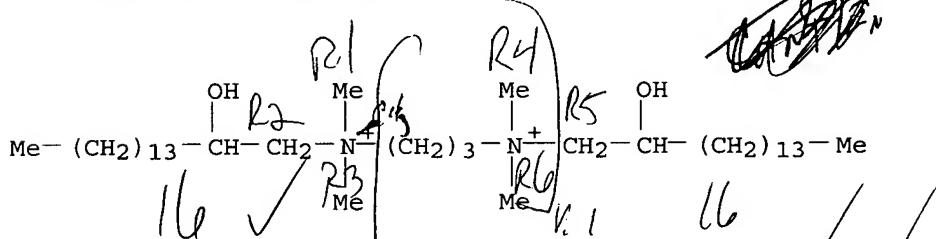
RN 84643-59-4 HCPLUS

CN 1,3-Propanediaminium, N,N'-bis(2-hydroxyhexadecyl)-N,N,N',N'-tetramethyl-, diformate (salt) (9CI) (CA INDEX NAME)

CM 1

CRN 84643-58-3

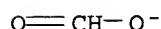
CMF C39 H84 N2 O2



CM 2

CRN 71-47-6

CMF C H O2

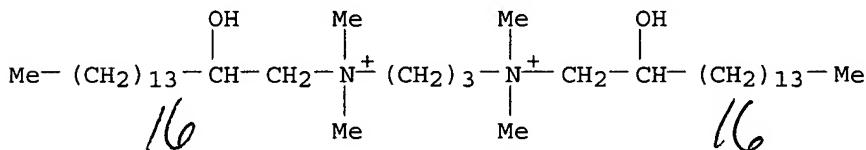


L21 ANSWER 16 OF 46 HCPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1982:491676 HCPLUS

DOCUMENT NUMBER: 97:91676

TITLE: Quaternation of tertiary amine salts with long chain epoxides
AUTHOR(S): Rutzen, H.
CORPORATE SOURCE: Lab. Henkel KGaA, Duesseldorf, Fed. Rep. Ger.
SOURCE: *of 2/20* Fette, Seifen, Anstrichmittel (1982), 84(3), 87-92
DOCUMENT TYPE: CODEN: FSASAX; ISSN: 0015-038X
LANGUAGE: German
AB A new process for the preparation of quaternary ammonium compds. operates at atmospheric pressure at relatively low temperature with phase transfer catalysts in aqueous dispersion. As special advantage, the process offers a large variability with respect to reaction participants (epoxide, tertiary amine, and acids). Polyfunctional compds. may also be used. These give products with several quaternary centers or polymeric quaternary salts. The products are interesting for the fields of cosmetics disinfectants, and textile treatment.
IT 82711-91-9P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 82711-91-9 HCAPLUS
CN 1,3-Propanediaminium, N,N'-bis(2-hydroxyhexadecyl)-N,N,N',N'-tetramethyl-, dichloride (9CI) (CA INDEX NAME)



•₂ Cl⁻

L21 ANSWER 17 OF 46 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1982:442075 HCAPLUS
DOCUMENT NUMBER: 97:42075
TITLE: Organic diammonium and related compounds as solvent extractants
INVENTOR(S): Du Preez, Jan Gysbert Hermanus
PATENT ASSIGNEE(S): Johannesburg Consolidated Investment Co. Ltd., S. Afr.
SOURCE: S. African, 24 pp.
CODEN: SFXXAB
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
ZA 8006992	A	19811028	ZA 1980-6992	19801112 <--

PRIORITY APPLN. INFO.: ZA 1979-6097 A 19791113
AB Metal ions are extracted from aqueous solns. by a ditertiary amine, phosphine,
etc.

arsine of the general formula $R_1R_2M(CH_2)nMR_3R_4$ ($M = N, P$, or As ; $n = 2-10$; $R_1, R_2, R_3, R_4 = C_7-12$ alkyl or aryl groups), and a diquaternary ammonium

phosphonium, or arsonium salt of the general formula R₁R₂R₃M(CH₂)_nMR₄R₅R₆-2X (M = N, P, or As; n = 2-10; X = Cl-, Br-, I-, SCN-, NO₃-, HSO₄-, or SO₄2-; R₁, R₂, R₃, R₄, R₅, R₆ = C₁-15 alkyl or aryl groups, and ≥4 are C₇-12). Preferred compds. are N,N,N',N'-tetraoctylethylenediamine [54378-14-2], N,N,N,N',N'-hexaoctylhexamethylenediammonium diiodide [82333-96-8], and N,N'-dimethyl-N,N,N',N'-tetraoctylethylenediammonium diiodide [82333-97-9]. Methods of preparation are given. The use of compds. in extraction of U, Fe, Cu, and Co are described.

IT 82334-07-4P

RL: IMF (Industrial manufacture); PREP (Preparation)
(preparation of, for extraction of metals)

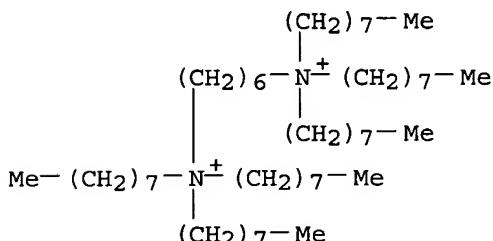
RN 82334-07-4 HCPLUS

CN 1,6-Hexanediaminium, N,N,N,N',N',N'-hexaoctyl-, dithiocyanate (9CI) (CA
INDEX NAME)

CM 1

CRN 82334-06-3

CMF C54 H114 N2



CM 2

CRN 302-04-5

CMF C N S

-S-C≡N

L21 ANSWER 18 OF 46 HCPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1981:52691 HCPLUS

DOCUMENT NUMBER: 94:52691

TITLE: Quaternized polymer for use as a cosmetic agent in
cosmetic compositions for the hair and skin

INVENTOR(S): Jacquet, Bernard; Lang, Gerard

PATENT ASSIGNEE(S): Oreal S. A., Fr.

SOURCE: U.S., 36 pp. Cont.-in-part of U.S. Ser. No. 577,836,
abandoned.

CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 5

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 4217914	A	19800819	US 1977-849657	19771108 <--
BE 829081	A1	19751114	BE 1975-156359	19750514 <--
AT 369261	B	19821227	AT 1975-8647	19751113 <--
AT 7508647	A	19800915		
US 4422853	A	19831227	US 1980-163411	19800626 <--
AT 8004115	A	19850615	AT 1980-4115	19800811 <--
AT 379509	B	19860127		
US 4948579	A	19900814	US 1983-545770	19831026 <--

PRIORITY APPLN. INFO.:

LU 1974-70096	A 19740516
LU 1975-71849	A 19750214
US 1975-577836	A2 19750515
AT 1975-8647	A 19751113
US 1977-849657	A2 19771108
US 1980-163411	A3 19800626

AB The title compds. (N+RR₁AN+RR₁B)_m.X-2m [A and B = xylylene, (CH₂)_xCHX₁(CH₂)_yCHX₂(CH₂)_z, (CH₂)_nS(CH₂)_n, etc.; x, y, z = 0-11; X₁, X₂ = H or alkyl; n = 2 or 3; X = anion] were prepared by several methods and formulated as compns. for treatment of hair and skin. Thus, a hand cream formulation contains Vaseline oil 10, cetyl alc. 6, glyceryl monostearate 4, triethanolamine 2, Me p-hydroxybenzoate 0.1, quaternized polymer [28728-55-4] 4, and water up to 100 g.

IT 59407-59-9P 59407-65-7P 59407-95-3P

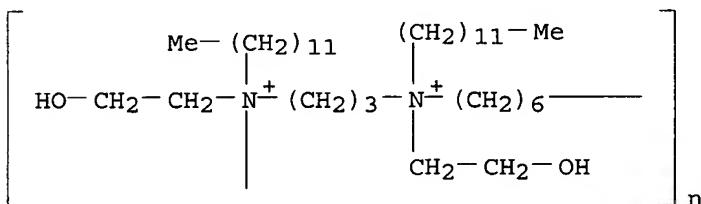
76171-03-4P

RL: PREP (Preparation)

(preparation of, for hair and skin cosmetics)

RN 59407-59-9 HCPLUS

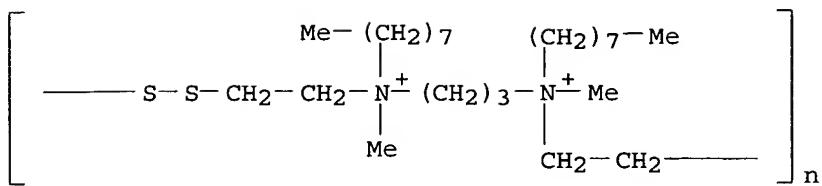
CN Poly[[dodecyl(2-hydroxyethyl)iminio]-1,3-propanediyl[dodecyl(2-hydroxyethyl)iminio]-1,6-hexanediyl dibromide] (9CI) (CA INDEX NAME)



● 2 Br⁻

RN 59407-65-7 HCPLUS

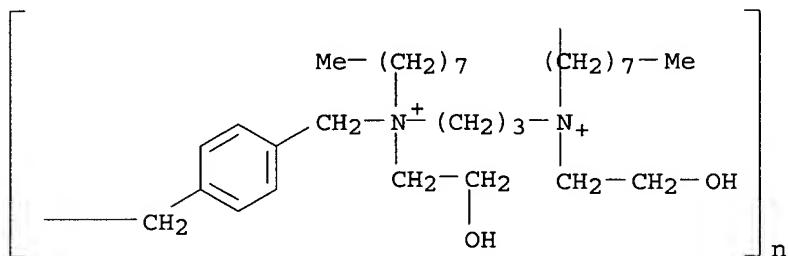
CN Poly[dithio-1,2-ethanediyl(methyloctyliminio)-1,3-propanediyl(methyloctyliminio)-1,2-ethanediyl dibromide] (9CI) (CA INDEX NAME)



● 2 Br⁻

RN 59407-95-3 HCAPLUS

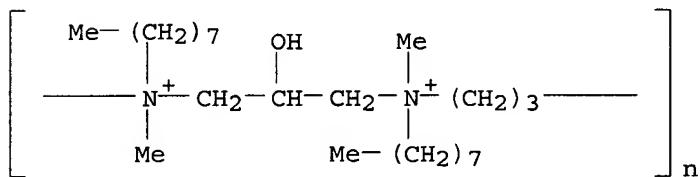
Chemical Name: Poly[[(2-hydroxyethyl)octyliminio]-1,3-propanediyl[(2-hydroxyethyl)octyliminio]methylene-1,4-phenylenemethylene dibromide] (9CI)
(CA INDEX NAME)



● 2 Br⁻

RN 76171-03-4 HCAPLUS

CN Poly[(methyloctyliminio)(2-hydroxy-1,3-propanediyl)(methyloctyliminio)-1,3-propanediyl dibromide] (9CI) (CA INDEX NAME)



● 2 Br⁻

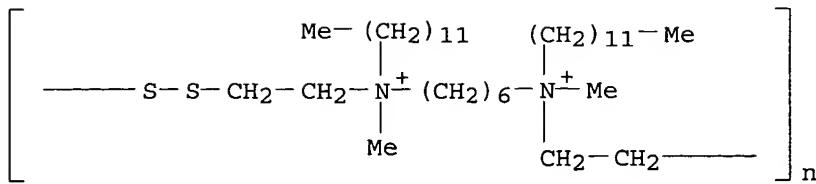
IT 58295-15-1P

RL: PREP (Preparation)
(preparation of, for hair and skin treatment)

RN 58295-15-1 HCAPLUS

CA 50235 15-1 NEM-205
 CN Poly[dithio-1,2-ethanediyl(dodecylmethylinio)-1,6-hexanediyl(dodecylmethylinio)-1,2-ethanediyl dibromide] (9CI) (CA INDEX)

NAME)

●2 Br⁻

L21 ANSWER 19 OF 46 HCPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1981:16011 HCPLUS

DOCUMENT NUMBER: 94:16011

TITLE: Surfactants based on N-methyl-D-glucamine

AUTHOR(S): Veksler, V. I.; Kovalenko, L. N.; Sergeeva, N. I.

CORPORATE SOURCE: Inst. Sov. Torg., Leningrad, USSR

SOURCE: Zhurnal Obshchey Khimii (1980), 50(9),

2120-3

CODEN: ZOKHA4; ISSN: 0044-460X

DOCUMENT TYPE: Journal

LANGUAGE: Russian

AB The surface-active properties of quaternary ammonium salts of D-sorbitol, e.g., $[\text{QNMeRR}]^+X^-$ (Q = radical from D-sorbitol, R = Et, Pr, octyl, nonyl, decyl, $\text{CH}_2\text{CO}_2\text{C}_6\text{H}_{13}$, $\text{CH}_2\text{CO}_2\text{C}_{10}\text{H}_{21}$, $\text{CH}_2\text{CO}_2\text{Me}$, R1 = dodecyl, hexadecyl, octadecyl, X⁻ = Br, Cl) and $[\text{QMeRNCH}_2]^+ 2\text{Br}^-$ (R = dodecyl, hexadecyl), depend on the structure of the substituents connected to the N atom. A correspondence between the surface-active and bactericidal properties was also found.

IT 75869-90-8 75883-17-9

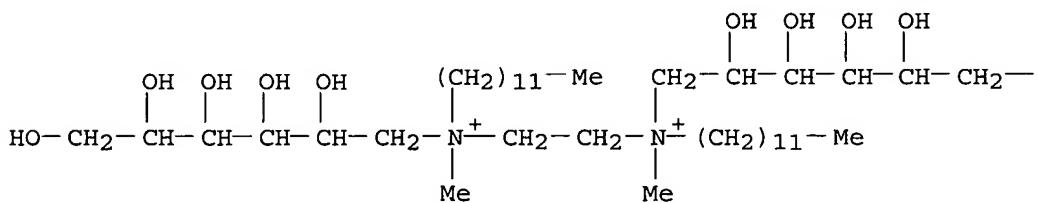
RL: RCT (Reactant); RACT (Reactant or reagent)

(surface-active properties of, bactericidal activity in relation to)

RN 75869-90-8 HCPLUS

CN D-Glucitol, 1,1'-(1,2-ethanediylbis(dodecylmethylinimino)]bis[1-deoxy-, dibromide (9CI) (CA INDEX NAME)

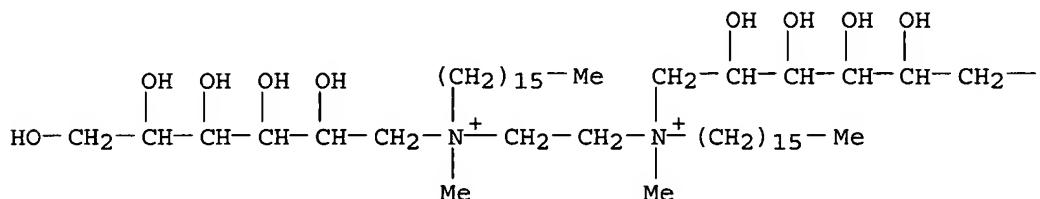
PAGE 1-A

●2 Br⁻

$$-\text{OH}$$

RN 75883-17-9 HCPLUS
CN D-Glucitol, 1,1'-[1,2-ethanediylbis(hexadecylmethylenimino)]bis[1-deoxy-, dibromide (9CI) (CA INDEX NAME)

PAGE 1-A



•₂ Br⁻

PAGE 1 - B

— OH

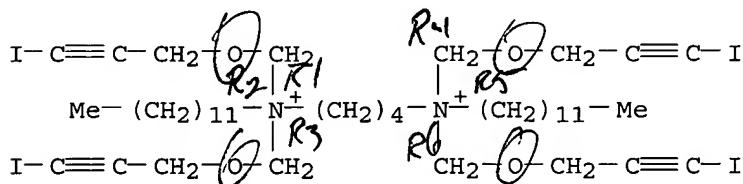
L21 ANSWER 20 OF 46 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1980:638816 HCAPLUS
DOCUMENT NUMBER: 93:238816
TITLE: Microbiocidal quaternaries of halogen derivatives of alkynoxymethyl amines
INVENTOR(S): Quinlan, Patrick M.
PATENT ASSIGNEE(S): Petrolite Corp., USA
SOURCE: U.S., 10 pp. Division of U.S. Ser. No. 556,331.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 4206233	A	19800603	US 1978-957629	19781103 <
US 4252743	A	19810224	US 1978-957615	19781103 <
PRIORITY APPLN. INFO.:			US 1975-556331	A3 19750307
			US 1978-957615	A1 19781103

AB The title compds., $\text{RR1N+}(\text{CH}_2\text{OCH}_2\text{C.tplbond.CI})_2\text{A-}$ ($\text{R, R1 = alkyl, aryl, aralkyl, etc.}$; $\text{A- = anion, e.g., halide}$) and $\text{Z}[\text{N+R}(\text{CH}_2\text{OCH}_2\text{C.tplbond.CI})_2]_2\text{.2A-}$ ($\text{Z = alkylene, alkynylene, alkenylene, arylene, etc.}$), useful as bactericides and corrosion inhibitors, especially for ferrous metals, were prepared by the quaternization of $\text{RN}(\text{CH}_2\text{OCH}_2\text{C.tplbond.CI})_2$ with R1A or with

ZA2. Thus, C₁₂H₂₅N(CH₂OCH₂C.tplbond.CI)₂ refluxed with MeI in Me₂CHOH gave C₁₂H₂₅N+Me(CH₂OCH₂C.tplbond.CI)₂.I- which presented static weight loss in corrosion inhibiting tests with steel and which inhibited growth of the organism Desulfovibrio desulsuricans.

IT 73585-29-2P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation and bactericidal and corrosion inhibiting properties of)
 RN 73585-29-2 HCPLUS
 CN 1,4-Butanediaminium, N,N'-didodecyl-N,N,N',N'-tetrakis[[(3-iodo-2-propynyl)oxy]methyl]-, dibromide (9CI) (CA INDEX NAME)



●2 Br⁻

L21 ANSWER 21 OF 46 HCPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1980:533793 HCPLUS
 DOCUMENT NUMBER: 93:133793
 TITLE: Softener for textiles
 INVENTOR(S): Minegishi, Yutaka; Nishimura, Toshiro
 PATENT ASSIGNEE(S): Kao Soap Co., Ltd., Japan
 SOURCE: Ger. Offen., 17 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

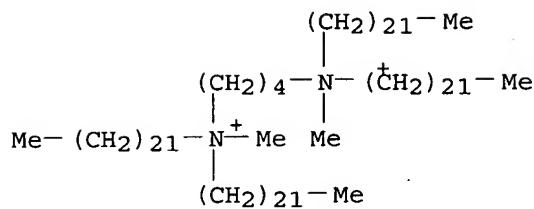
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2949212	A1	19800619	DE 1979-2949212	19791204 <--
DE 2949212	C2	19890216		
JP 55076168	A2	19800609	JP 1978-150290	19781205 <--
JP 59032585	B4	19840809		
US 4277350	A	19810707	US 1979-98685	19791129 <--
FR 2443526	A1	19800704	FR 1979-29776	19791204 <--
FR 2443526	B1	19811218		
ES 486594	A1	19801101	ES 1979-486594	19791204 <--

PRIORITY APPLN. INFO.:
 AB Quaternary alkylenediammonium salts are softening agents for textiles.
 Thus, hexamethylenebis(methyldioctadecylammonium chloride [74836-16-1], prepared from hexamethylenediamine, C₁₈H₃₇Cl, and MeCl, is an effective softener for laundered, stiffened cotton and acrylic fabrics.

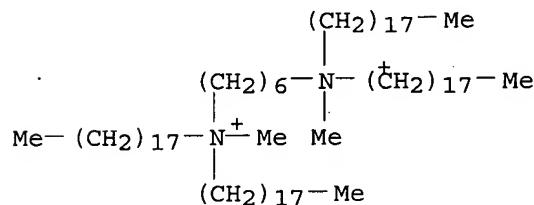
IT 74832-33-0 74836-16-1 74836-18-3

RL: USES (Uses)
 (softening agents, for textiles)

RN 74832-33-0 HCPLUS
 CN 1,4-Butanediaminium, N,N,N',N'-tetradocosyl-N,N'-dimethyl-, dichloride (9CI) (CA INDEX NAME)

●2 Cl⁻

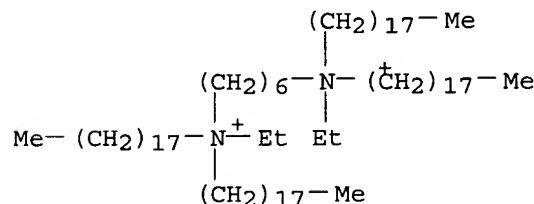
RN 74836-16-1 HCAPLUS
 CN 1,6-Hexanediaminium, N,N'-dimethyl-N,N,N',N'-tetraoctadecyl-, dichloride
 (9CI) (CA INDEX NAME)

●2 Cl⁻

RN 74836-18-3 HCAPLUS
 CN 1,6-Hexanediaminium, N,N'-diethyl-N,N,N',N'-tetraoctadecyl-, sulfate (1:1)
 (9CI) (CA INDEX NAME)

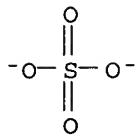
CM 1

CRN 74836-17-2
 CMF C82 H170 N2



CM 2

CRN 14808-79-8
 CMF O4 S



L21 ANSWER 22 OF 46 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1980:499825 HCAPLUS
 DOCUMENT NUMBER: 93:99825
 TITLE: Inhibiting corrosion with quaternaries of halogen derivatives of alkynoxymethyl amines
 INVENTOR(S): Quinlan, Patrick M.
 PATENT ASSIGNEE(S): Petrolite Corp., USA
 SOURCE: U.S., 10 pp. Division of U.S. Ser. No. 556,331.
 CODEN: USXXAM
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 4187277	A	19800205	US 1978-957616	19781103 <--
PRIORITY APPLN. INFO.:			US 1975-556331	A3 19750307

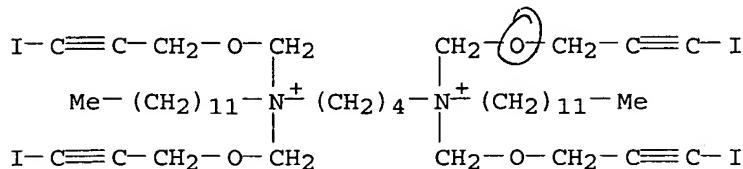
AB Quaternary compds. of halogen derivs. of alkynoxymethyl amines with the general formula of RR₁(N)+(CH₂OR₂C.tplbond.CX)₂A-, where R and R₁ are alkyl or aryl group, can be used in aqueous solution as corrosion inhibitors of ferrous alloys. The A in the general formula is an anion. This group of compds. can also have the form of (CH₂OR₂C.tplbond.CX₂)₂RN+(Z)N+R(CH₂OR₂C.tplbond.CX)₂.2A-, where Z is a bridging group. Thus, the compound [C₄H₉(Me)N+(CH₂OCH₂C.tplbond.CI)₂ was formed by reacting 18.4 g of C₄H₉(CH₂OCH₂C.tplbond.CI)₂ with 5.7 g of MeI and 20 mL of EtOH.

IT 73585-29-2

RL: USES (Uses)
 (corrosion inhibitor, for steel in aqueous medium)

RN 73585-29-2 HCAPLUS

CN 1,4-Butanediaminium, N,N'-didodecyl-N,N',N'-tetrakis[[(3-iodo-2-propynyl)oxy]methyl]-, dibromide (9CI) (CA INDEX NAME)



●2 Br⁻

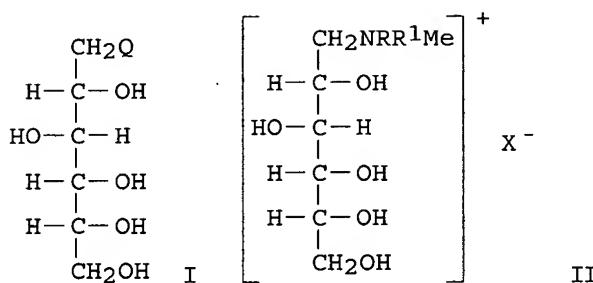
L21 ANSWER 23 OF 46 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1980:181509 HCAPLUS
 DOCUMENT NUMBER: 92:181509
 TITLE: Synthesis of antimicrobial substances - derivatives of

AUTHOR(S) : D-sorbitol
 Veksler, V. I.; Deeva, V. E.; Kovalenko, L. N.;
 Markovich, A. V.; Lysenko, E. A.; Sokolov, B. V.;
 Sokolov, V. D.; Solov'yan, N. A.; Khavin, Z. Ya.; et
 al.

CORPORATE SOURCE: Leningr. Inst. Sov. Trgovli, Leningrad, USSR
 SOURCE: Zhurnal Obshchey Khimii (1979), 49(12),
 2731-8

DOCUMENT TYPE: CODEN: ZOKHA4; ISSN: 0044-460X
 Journal

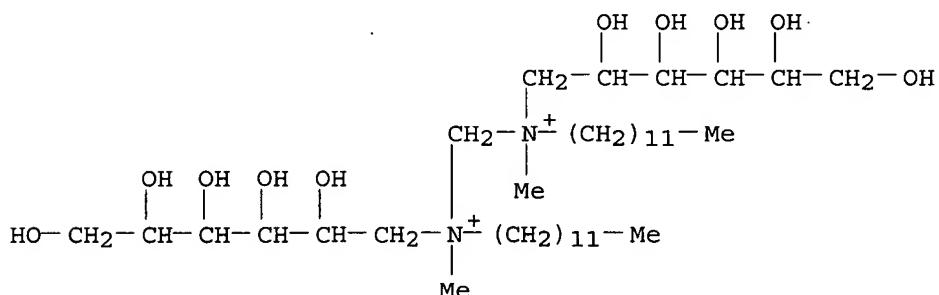
LANGUAGE: Russian
 GI



AB Alkylation of N-methyl-D-glucamine (I, Q = MeNH) with RX (R = C₁₈H₃₇, X = Br; R = C₁₂H₂₅, C₁₄H₂₉, C₁₆H₃₃, X = Cl) gave I (Q = MeNR) which were alkylated by R₁X [R₁ = C₁₋₆, 8-10 alkyl, PhCH₂, CH₂CO₂R₂ (R₂ = Me, hexyl, octyl, decyl), CH₂CONET₂, -X = I, -Cl, Br, PhSO₃] to give quaternary ammonium salts II which were effective against gram-pos. bacteria and exhibited low toxicities in chick embryo tests.

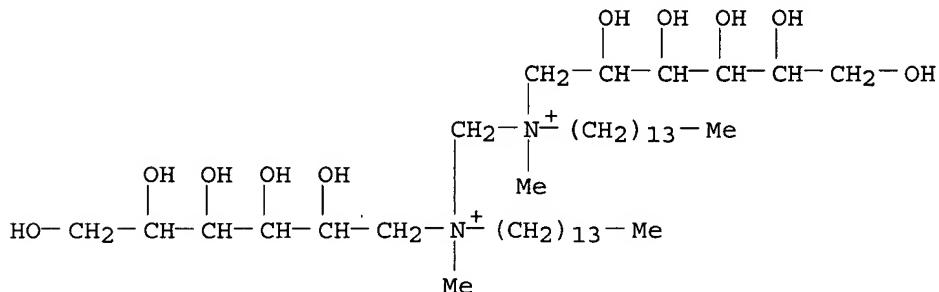
IT 73458-89-6P 73458-90-9P 73458-91-0P
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
 (preparation and bactericidal activity of)

RN 73458-89-6 HCAPLUS
 CN D-Glucitol, 1,1'-[methylenebis(dodecylmethylenimino)]bis[1-deoxy-, dibromide (9CI) (CA INDEX NAME)



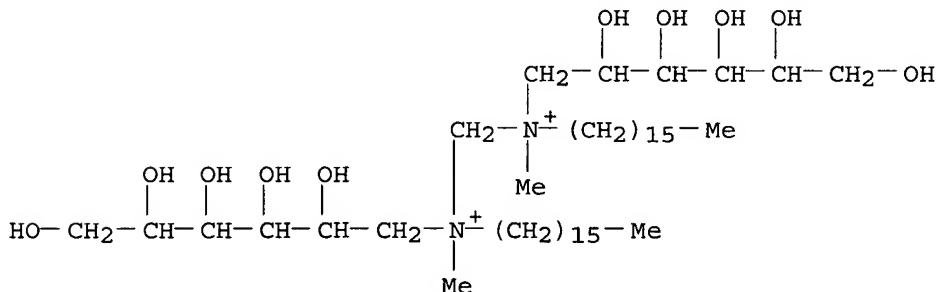
RN 73458-90-9 HCPLUS

CN D-Glucitol, 1,1'-(methylenebis(methyltetradecyliminio))bis[1-deoxy-, dibromide (9CI) (CA INDEX NAME)

●2 Br⁻

RN 73458-91-0 HCPLUS

CN D-Glucitol, 1,1'-(methylenebis(hexadecylmethyliminio))bis[1-deoxy-, dibromide (9CI) (CA INDEX NAME)

●2 Br⁻

L21 ANSWER 24 OF 46 HCPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1980:76079 HCPLUS

DOCUMENT NUMBER: 92:76079

TITLE: Unsymmetrical oligoquaternary ammonium compounds

INVENTOR(S): Bauman, Robert A.

PATENT ASSIGNEE(S): Colgate-Palmolive Co., USA

SOURCE: U.S., 9 pp.

CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 3

PATENT INFORMATION:

PATENT NO.

KIND

DATE

APPLICATION NO.

DATE

US 4166073 A 19790828 US 1977-826587 19770822 <--
PRIORITY APPLN. INFO.: US 1968-716412 A2 19680327
US 1970-82626 A3 19701021

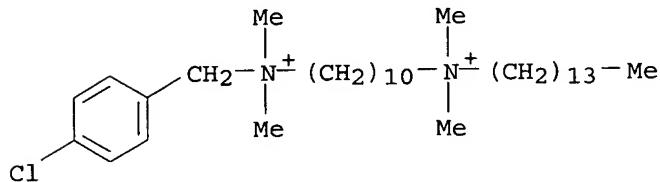
AB Unasym. oligoquaternary ammonium compds. containing ≥ 2 onium N atoms, $\text{RN}+\text{R21}(\text{CH}_2)\text{nN}+\text{R22}[(\text{CH}_2)\text{mN}+\text{R23}]^{\text{p}}\text{CH}_2\text{R4}$ Xq (R = C10-18 alkyl, R1-R3 = C1-3 alkyl, R4 = Ph or substituted Ph, m = 2-12, n = 2-18, p = 0 or 1, X = halide, alkanesulfonate or PhSO_3^- , q = number to satisfy cation valence requirements), which showed antimicrobial and anticaries activities, were prepared. Thus, $\text{Me}(\text{CH}_2)_{11}\text{NMe}_2$ reacted with excess $\text{Br}(\text{CH}_2)_{10}\text{Br}$, then with 4-ClC₆H₄CH₂NMe₂ to give $\text{Me}(\text{CH}_2)_{11}\text{N}+\text{Me}_2(\text{CH}_2)_{10}\text{N}+\text{Me}_2\text{CH}_2\text{C}_6\text{H}_4\text{Cl}-4$ 2 Br⁻, which gave > 75% caries reduction in hamsters and showed strong bactericidal and fungicidal activity.

IT 50558-05-9P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and anticaries activity of)

RN 50558-05-9 HCAPLUS

CN 1,10-Decanediaminium, N-[(4-chlorophenyl)methyl]-N,N,N',N'-tetramethyl-N'-tetradecyl-, dibromide (9CI) (CA INDEX NAME)



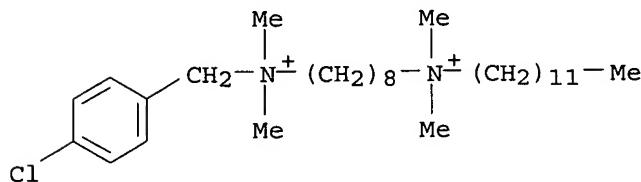
2 Br⁻

IT 72164-07-9P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation and antimicrobial activity of)

BN 72164-07-9 HCAPLUS

CN 1,8-Octanediaminium, N-[(4-chlorophenyl)methyl]-N'-dodecyl-N,N,N',N'-tetramethyl-, dibromide (9CI) (CA INDEX NAME)



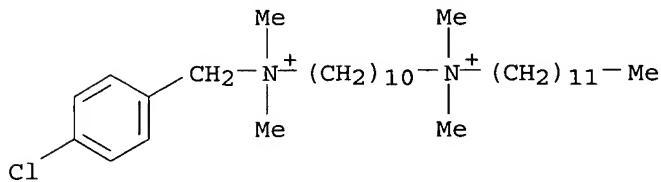
●₂ Br⁻

IT 50558-10-6P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and antimicrobial and anticaries activity of)

RN 50558-10-6 HCAPLUS

CN 1,10-Decanediaminium, N-[(4-chlorophenyl)methyl]-N'-dodecyl-N,N,N',N'-tetramethyl-, dibromide (9CI) (CA INDEX NAME)



●2 Br⁻

L21 ANSWER 25 OF 46 HCPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1978:158279 HCPLUS

DOCUMENT NUMBER: 88:158279

TITLE: Cosmetics containing quaternized polymers as base materials

INVENTOR(S): Jacquet, Bernard; Lang, Gerard

PATENT ASSIGNEE(S): Oreal S. A., Fr.

SOURCE: Jpn. Kokai Tokkyo Koho, 34 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 52061237	A2	19770520	JP 1975-135724	19751113 <--
JP 61037242	B4	19860822		

PRIORITY APPLN. INFO.:

AB Novel cosmetics were prepared containing the quaternized polymers [N+(X-)RR'AN+(X-)RR'B]_n (I) [R = lower alkyl or (CH₂)₂OH; R' = alkyl, cycloalkyl, aryl, or arylalkyl; NRR' = heterocyclic; A = alkylene, substituted alkylene, or phenylene; B = alkylene or phenylene; X = organic or inorg. anion] as base materials. For example, N,N,N',N'-tetramethylhexamethylenediamine and 1,3-dibromopropane were mixed in 50:50 MeOH-DMF and stirred at room temperature for 170 h to form a quaternized polymer

[I; R = R' = Me, A = (CH₂)₆, B = (CH₂)₅, X = Br] (II) [28728-55-4]. A hand cream was then formulated containing petrolatum 10, cetyl alc. 6, emulsified glycerol monostearate 4, triethanolamine 2, Me p-hydroxybenzoate 0.1, II 4, and H₂O 73.9g.

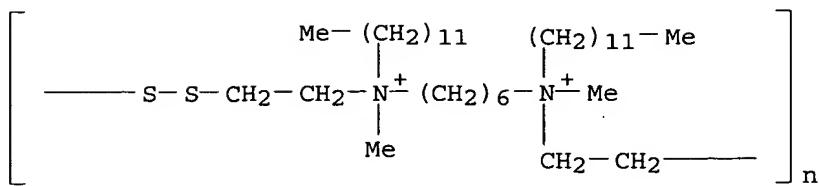
IT 58295-15-1 58295-17-3 59407-59-9

59407-65-7 59407-95-3

RL: BIOL (Biological study)
(for cosmetics, as base materials)

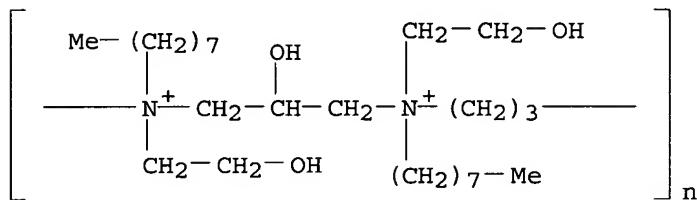
RN 58295-15-1 HCPLUS

CN Poly[dithio-1,2-ethanediyl(dodecylmethyliiminio)-1,6-hexanediyi(dodecylmethyliiminio)-1,2-ethanediyl dibromide] (9CI) (CA INDEX NAME)

●2 Br⁻

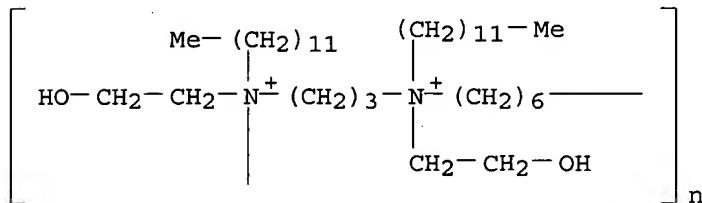
RN 58295-17-3 HCAPLUS

CN Poly[[(2-hydroxyethyl)octyliminio](2-hydroxy-1,3-propanediyl)[(2-hydroxyethyl)octyliminio]-1,3-propanediyl dibromide] (9CI) (CA INDEX NAME)

●2 Br⁻

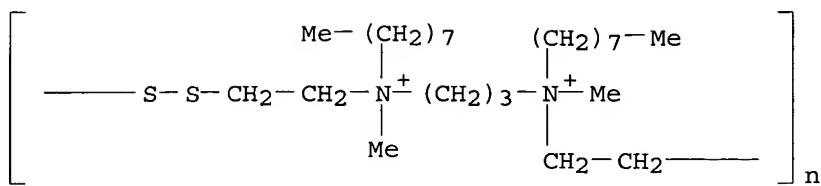
RN 59407-59-9 HCAPLUS

CN Poly[[dodecyl(2-hydroxyethyl)iminio]-1,3-propanediyl[dodecyl(2-hydroxyethyl)iminio]-1,6-hexanediyi] dibromide] (9CI) (CA INDEX NAME)

●2 Br⁻

RN 59407-65-7 HCAPLUS

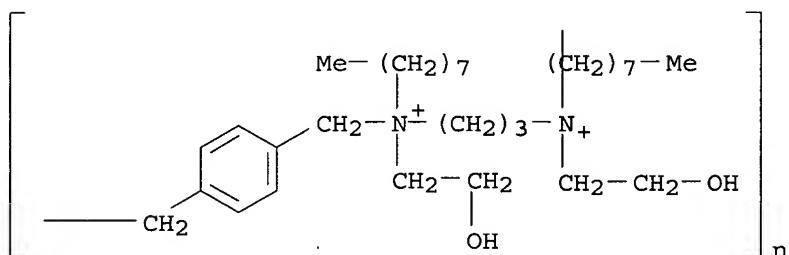
CN Poly[dithio-1,2-ethanediyl(methyloctyliminio)-1,3-propanediyl(methyloctyliminio)-1,2-ethanediyl dibromide] (9CI) (CA INDEX NAME)



•₂ Br⁻

RN 59407-95-3 HCAPLUS

Chemical Name: Poly[[(2-hydroxyethyl)octyliminio]-1,3-propanediyl[(2-hydroxyethyl)octyliminio]methylene-1,4-phenylenemethylene dibromide] (9CI)
(CA INDEX NAME)



2 Br⁻

L21 ANSWER 26 OF 46 HCPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1977:405382 HCAPLUS

DOCUMENT NUMBER: 87:5382

TITLE: N,N'-Bridged-bis[2-alkyl-2-hydroxyethylamines]

INVENTOR(S): Diana, Guy D.; Cutler, Royal A.

PATENT ASSIGNEE(S) : Sterling Drug Inc., USA

SOURCE: U.S., 11 pp. 1

SOURCE:

DOCUMENT TYPE: Patent

DOCUMENT TYPE: **PRO**
LANGUAGE: **EN**

FAMILY ACC. NUM. CO

PATENT ACC. NUM. CO
PATENT INFORMATION:

PATIENT INFORMATION:

PATENT NO

KIND	DATE	APPLICATION NO.	DATE
A	19770510	US 1975-582646	19750602 <--
A	19751223	US 1973-332267	19730214 <--
A	19781010	US 1977-833485	19770915 <--
A	19790220	US 1978-916345	19780616 <--
		US 1971-123097	A2 19710310
		US 1973-332267	A3 19730214
		US 1975-582646	A3 19750602
		US 1976-739447	A3 19761108

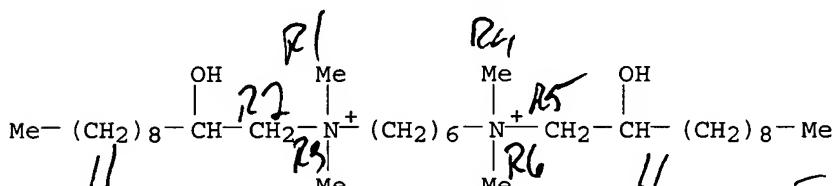
US 1977-833485 A3 19770715

AB Fifty-four bacteriostatic and bactericidal ROCHR1CH2NR2QNR2CH2CHR1OR [I; R = H or PhNHCO; R1 = C5-10,12-14 n-alkyl; R2 = H or Me; Q = (CH2)_n (n = 2, 3, 6, 8, 10), 1,4-cyclohexylenedimethylene] were prepared as the free bases, salts, or quaternary salts by the addition of alkyloxiranes to R2NHQNR2 to give the free bases, some of which were converted into the derivs. by conventional methods. Thus, nonyloxirane was added to H2N(CH2)6NH2 to give I [R = R2 = H, R1 = n-nonyl, Q = (CH2)6], which killed 4 types of bacteria at 5-25 ppm.

IT 55778-86-4P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(preparation and bactericidal activity of)

RN 55778-86-4 HCPLUS

CN 1,6-Hexanediaminium, N,N'-bis(2-hydroxyundecyl)-N,N,N',N'-tetramethyl-, dichloride (9CI) (CA INDEX NAME)



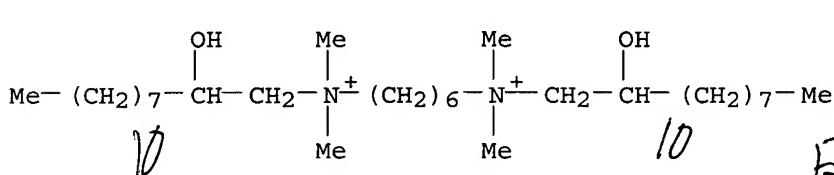
Ezample 91

●2 Cl⁻

IT - 55778-87-5P 55778-88-6P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 55778-87-5 HCPLUS

CN 1,6-Hexanediaminium, N,N'-bis(2-hydroxydecyl)-N,N,N',N'-tetramethyl-, dichloride (9CI) (CA INDEX NAME)



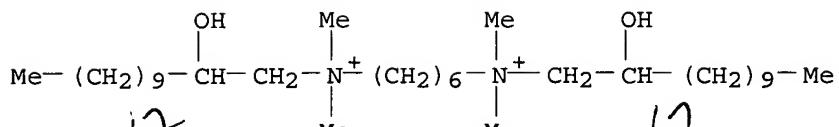
Ezample 91

E92

●2 Cl⁻

RN 55778-88-6 HCPLUS

CN 1,6-Hexanediaminium, N,N'-bis(2-hydroxydodecyl)-N,N,N',N'-tetramethyl-, dichloride (9CI) (CA INDEX NAME)



12

12

- 67

●2 Cl⁻

L21 ANSWER 27 OF 46 HCPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1977:18315 HCPLUS

DOCUMENT NUMBER: 86:18315

TITLE: Surface treating agent for textile fibers or human hair

INVENTOR(S): Marushige, Hideo

PATENT ASSIGNEE(S): Carapus Inc., Japan

SOURCE: Jpn. Tokkyo Koho, 11 pp.

CODEN: JAXXAD

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 51020639	B4	19760626	JP 1971-30393	19710510 <--
PRIORITY APPLN. INFO.:			JP 1971-30393	A 19710510

AB Hair and acrylic and polyamide fibers were treated with amino acid salts for washfast softness and antistatic properties. For example, Vonnel was immersed in 0.1% aqueous 10:3 [C₆H₁₃CH(OH)CH₂NHCH₂CO₂]₂Ca [40441-05-2] - C₁₂H₂₅CH[O(CH₂CH₂O)₁₅H]CH₂N⁺(CH₂CO₂H)][(CH₂CH₂O)₁₅CH₂CO₂H]₂ OH- Ca salt (2:3) [61099-65-8] for 5 min at 30° to 50% pickup and dried for better washfast antistatic properties than control treated with (C₁₈H₃₇)₂Me₂NCl.

IT 61102-49-6

RL: USES (Uses)

(softening and antistatic agents, for hair and polyamide and acrylic fibers)

RN 61102-49-6 HCPLUS

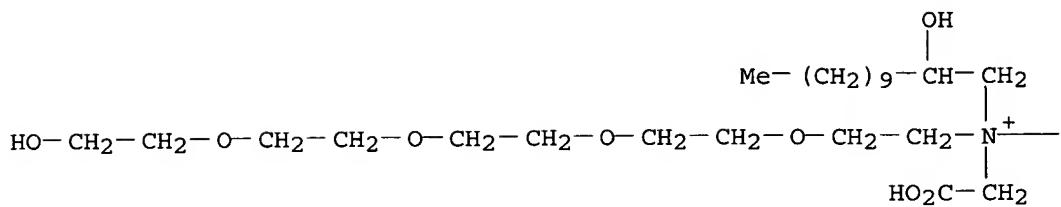
CN 1,2-Ethanediiminium, N,N'-bis(carboxymethyl)-N-(2-decyl-17-hydroxy-3,6,9,12,15-pentaoxaheptadec-1-yl)-N'-(2-hydroxydodecyl)-N,N'-bis(14-hydroxy-3,6,9,12-tetraoxatetradec-1-yl)-, dihydroxide, compd. with 2,2',2'''-nitrilotris[ethanol] (1:2) (9CI) (CA INDEX NAME)

CM 1

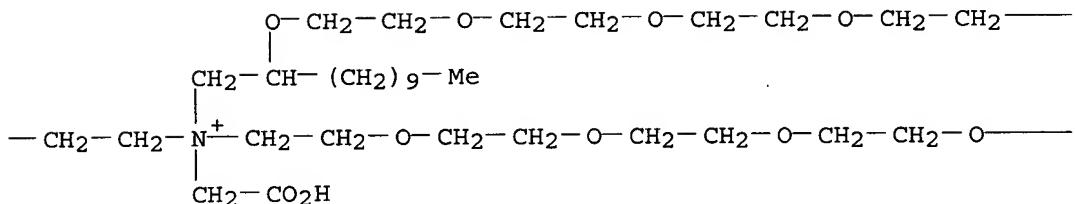
CRN 61102-48-5

CMF C60 H122 N2 O21 . 2 H O

PAGE 1-A

●2 OH⁻

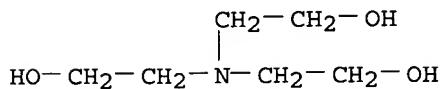
PAGE 1-B



PAGE 1-C

--- O - CH₂ - CH₂ - OH--- CH₂ - CH₂ - OH

CM 2

CRN 102-71-6
CMF C6 H15 N O3

L21 ANSWER 28 OF 46 HCPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1976:594015 HCPLUS
 DOCUMENT NUMBER: 85:194015
 TITLE: Antistatic nylon 6 fibers
 INVENTOR(S): Akiyama, Isamu
 PATENT ASSIGNEE(S): Toyobo Co., Ltd., Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.

CODEN: JKXXAF

DOCUMENT TYPE:

Patent

LANGUAGE:

Japanese

FAMILY ACC. NUM. COUNT:

1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 51096531	A2	19760824	JP 1975-20752	19750218 <--
JP 52008888	B4	19770312		

PRIORITY APPLN. INFO.: JP 1975-20752 A 19750218

AB Polymerization of mixts. of ϵ -caprolactam (I) containing a quaternary ammonium compound, adding N,N'-distearylhexylenediamine (II) [110-30-5] or N,N'-dilauroylethylenediamine [7003-56-7] to the mixture, and melt spinning the resulting composition [containing 0.05-2.0% (based on polyamide) II] gave antistatic fibers with reduced yarn breaks. Thus, a mixture of I containing 3% (based on polyamide) [C18H37N(OH)(CH₂CO₂-) [(CH₂CH₂O)_pH] [(CH₂CH₂O)_qH]]₂Ca⁺⁺ (p + q = 4) [26248-64-6] was polymerized to give nylon 6 II (0.10%) was added and the composition was spun at 260° and the spun fibers were finished with a lubricant and drawn 240% to give fibers with sp. elec. resistance 2.6 + 1010 Ω -cm and number of yarn breaks 0/24 hr, compared with 5.2 + 1010 and 84, resp., for fibers spun from a similar composition without II.

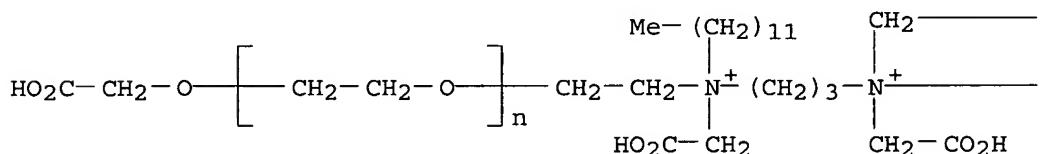
IT 60961-95-7 60990-83-2

RL: USES (Uses)
(antistatic agents, for nylon fibers)

RN 60961-95-7 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), α,α' -[1,3-propanediylbis[[(carboxymethyl)dodecyliminio]-2,1-ethanediyl]]bis[ω -(carboxymethoxy)-, dihydroxide, calcium salt (1:2) (9CI) (CA INDEX NAME)

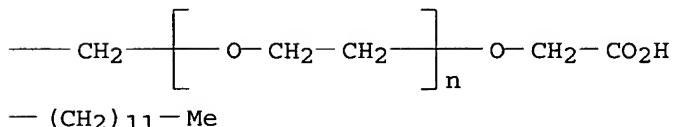
PAGE 1-A



●2 Ca

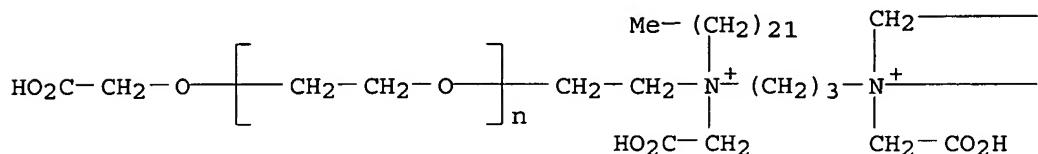
●2 OH⁻

PAGE 1-B



RN 60990-83-2 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), α,α' -[1,3-propanediylbis[[(carboxymethyl)docosyliminio]-2,1-ethanediyl]]bis[ω -(carboxymethoxy)-, dihydroxide, calcium salt (1:2) (9CI) (CA INDEX NAME)

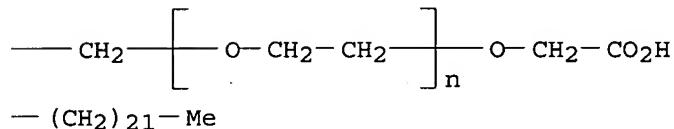
PAGE 1-A



2 Ca

●₂ OH⁻

PAGE 1-B



L21 ANSWER 29 OF 46 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1976:566467 HCAPLUS
DOCUMENT NUMBER: 85:166467
TITLE: Use of polyquaternary ammonium methylene phosphonates
in chelating or scale inhibition
INVENTOR(S): Quinlan, Patrick M.
PATENT ASSIGNEE(S): Petrolite Corp., USA
SOURCE: U.S., 13 pp. Division of U.S. 3,792,084.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3966630	A	19760629	US 1973-412603	19731105 <--
US 3792084	A	19740212	US 1972-237883	19720324 <--

PRIORITY APPLN. INFO.: US 1972-237883 A3 19720324
 AB Scale, such as that caused by Ca, Ba, Mg, CO₃²⁻, SO₄²⁻, SiO₃²⁻, etc., are inhibited by polyquaternary ammonium methylenephosphonates. These include compns. with ≥ 2 quaternary ammonium groups, and ≥ 4 methylenephosphonate group attached to nitrogens of the quaternary ammonium groups. A representative member is the reaction product of 1,4-dichloro-2-butene and (H₂O₃PCH₂)NCH₂CH₂N(CH₂PO₃H₂)₂. The compns. are

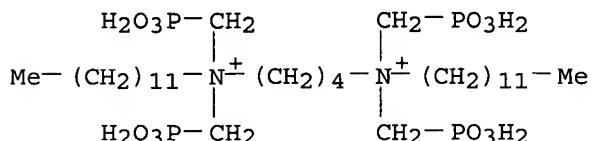
effective as scale inhibitors in small amts. such as 50-50,000 ppm of scale-forming salts. In addition to being an effective chelating agent, the compns. are microbiocides in water treatment and in flooding in petroleum recovery. Yields from a given field may be increased by ≤20-30%.

IT 53722-35-3 60820-64-6 60893-88-1

RL: OCCU (Occurrence)
(bactericide for water)

RN 53722-35-3 HCAPLUS

CN 1,4-Butanediaminium, N,N'-didodecyl-N,N,N',N'-tetrakis(phosphonomethyl)-, dibromide, octasodium salt (9CI) (CA INDEX NAME)

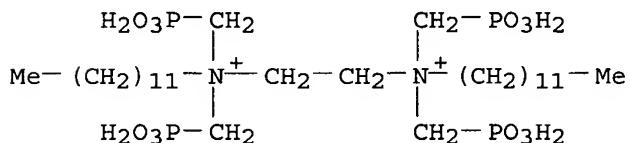


●2 Br⁻

●8 Na

RN 60820-64-6 HCAPLUS

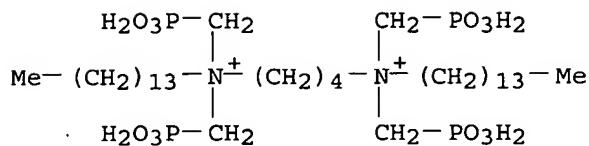
CN 1,2-Ethanediiminium, N,N'-didodecyl-N,N,N',N'-tetrakis(phosphonomethyl)-, dibromide (9CI) (CA INDEX NAME)



●2 Br⁻

RN 60893-88-1 HCAPLUS

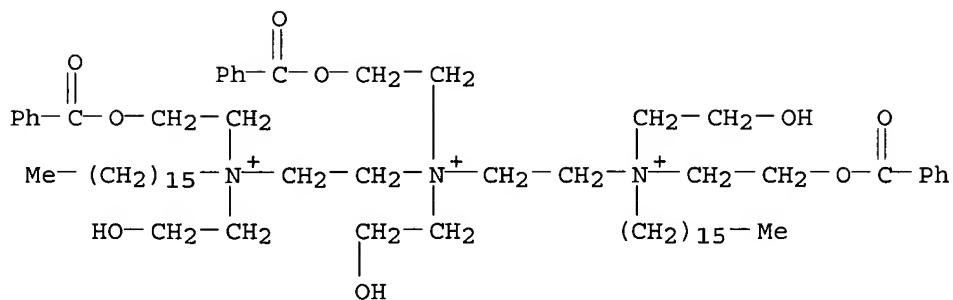
CN 1,4-Butanediaminium, N,N,N',N'-tetrakis(phosphonomethyl)-N,N'-ditetradecyl-, dibromide (9CI) (CA INDEX NAME)



●2 Br⁻

L21 ANSWER 30 OF 46 HCPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1976:525705 HCPLUS
 DOCUMENT NUMBER: 85:125705
 TITLE: Dyeing of acrylic fibers
 INVENTOR(S): Watanabe, Atsuo; Sunaga, Yasuhiro; Sugiyama, Saishiro
 PATENT ASSIGNEE(S): Morin Chemical Industries Ltd., Japan
 SOURCE: Jpn. Tokkyo Koho, 12 pp.
 CODEN: JAXXAD
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 49029911	B4	19740808	JP 1971-27917	19710430 <--
PRIORITY APPLN. INFO.:			JP 1971-27917	A 19710430
AB	Dyeing acrylic fibers with an acidic liquor containing a cationic dye and a quaternary or tertiary ammonium salt and adding an alkali compound to the liquor to decompose the salt gave colored fabrics with improved dye adsorption. Thus, Cashmilon F fabric was immersed in a bath containing Aizen Caltrilon Yellow GCLH, 90% AcOH 1, and [C17H33CONHCH2CH2CH2NMe2CH2CO2Bu] ⁺ Cl ⁻ [60416-39-9] 3% (on fiber weight) for 40 min at 100°. Aqueous 25% NH ₃ was added and the fabric was immersed in the mixture for 10 min at 100° to give a uniform yellow fabric.			
IT	60416-36-6			
RL	USES (Uses)	(carriers, for dyeing of acrylic fibers)		
RN	60416-36-6	HCPLUS		
CN	1,2-Ethanediiminium, N,N'-bis[2-(benzoyloxy)ethyl]-N-[2-[2-(benzoyloxy)ethyl]hexadecyl(2-hydroxyethyl)ammonio]ethyl]-N'-hexadecyl-N,N'-bis(2-hydroxyethyl)-, triiodide (9CI) (CA INDEX NAME)			



• 3 I -

L21 ANSWER 31 OF 46 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1976:410313 HCAPLUS
DOCUMENT NUMBER: 85:10313
TITLE: Cosmetic material based on quaternized polymers
INVENTOR(S): Jacquet, Bernard; Lang, Gerard
PATENT ASSIGNEE(S): Oreal S. A., Fr.
SOURCE: Ger. Offen., 107 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 5
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2521960	A1	19760408	DE 1975-2521960	19750516 <---
DE 2521960	B2	19790927		
DE 2521960	C3	19871203		
BE 829081	A1	19751114	BE 1975-156359	19750514 <---
NL 7505670	A	19751118	NL 1975-5670	19750514 <---
NL 180975	B	19870102		
NL 180975	C	19870601		
CH 611156	A	19790531	CH 1975-6221	19750514 <---
FR 2270846	A1	19751212	FR 1975-15162	19750515 <---
FR 2270846	B1	19781020		
CA 1059436	A1	19790731	CA 1975-227053	19750515 <---
AT 369261	B	19821227	AT 1975-8647	19751113 <---
AT 7508647	A	19800915		
AT 8004115	A	19850615	AT 1980-4115	19800811 <---
AT 379509	B	19860127		

PRIORITY APPLN. INFO. : LU 1974-70096 A 19740516
LU 1975-71849 A 19750214
AT 1975-8647 A 19751113

AB Cationic polymers containing quaternary N atoms in the polymer chain are useful as hair conditioning agents and skin moisturizers and softeners. For example, 326 g N,N'-dimethyl-N,N'-dioctyl-1,3-diaminopropane (prepared by reaction of 1,3-dibromopropane [109-64-8] and N-methyloctylamine [2439-54-5]) reacted with 216 g 1,4-dibromobutane under reflux to form a quaternary copolymer [58295-21-9]. A water wave lotion for sensitive hair was prepared containing this copolymer 1 g, poly(vinylpyrrolidinone) 1 g, and ETOH to 100 ml.

IT 58295-15-1 58295-17-3 59407-59-9

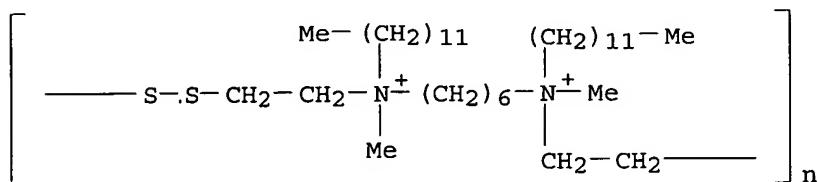
59407-65-7 59407-95-3

RL: BIOL (Biological study)

(hair and skin lotions containing)

RN 58295-15-1 HCAPLUS

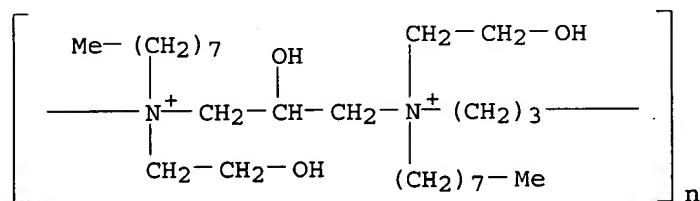
CA
CN Poly[dithio-1,2-ethanediyl(dodecylmethylinio)-1,6-hexanediyl(dodecylmethylinio)-1,2-ethanediyl dibromide] (9CI) (CA INDEX NAME)



●₂ Br⁻

RN 58295-17-3 HCAPLUS

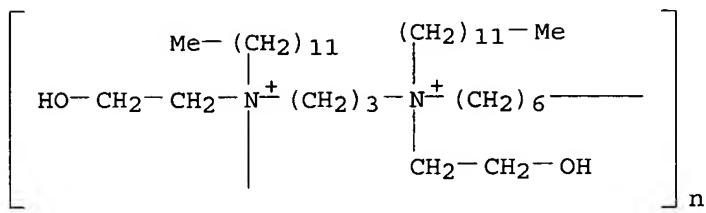
Chemical Name
CN Poly[[(2-hydroxyethyl)octyliminio] (2-hydroxy-1,3-propanediyl) [(2-hydroxyethyl)octyliminio]-1,3-propanediyl dibromide] (9CI) (CA INDEX NAME)



•₂ Br⁻

RN 59407-59-9 HCAPLUS

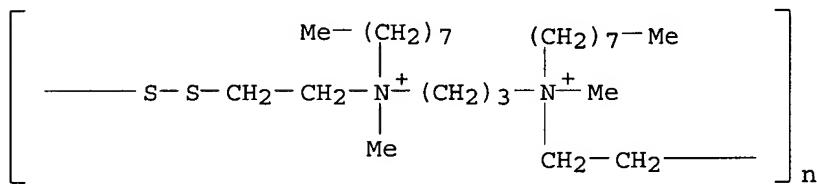
CN Poly[[dodecyl(2-hydroxyethyl)iminio]-1,3-propanediyl[dodecyl(2-hydroxyethyl)iminio]-1,6-hexanediyi] dibromide] (9CI) (CA INDEX NAME)



●2 Br⁻

RN 59407-65-7 HCPLUS

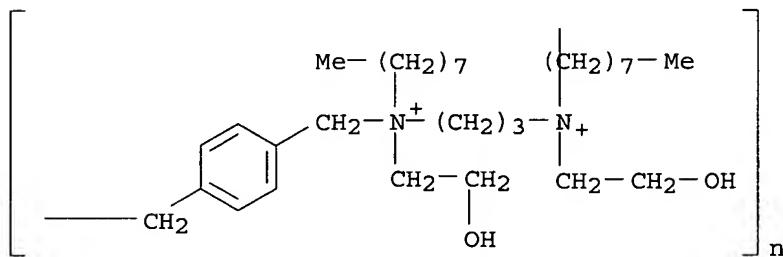
CN Poly[dithio-1,2-ethanediyl(methyloctyliminio)-1,3-propanediyl(methyloctyliminio)-1,2-ethanediyl dibromide] (9CI) (CA INDEX NAME)



●2 Br⁻

RN 59407-95-3 HCPLUS

CN Poly[[[(2-hydroxyethyl)octyliminio]-1,3-propanediyl[(2-hydroxyethyl)octyliminio]methylene-1,4-phenylenemethylene dibromide] (9CI) (CA INDEX NAME)



●2 Br⁻

L21 ANSWER 32 OF 46 HCPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1976:179640 HCPLUS

DOCUMENT NUMBER: 84:179640

TITLE: N,N'-Bridged-bis[2-alkyl-2-hydroxyethylamine] salts
 INVENTOR(S): Diana, Guy D.; Cutler, Royal A.
 PATENT ASSIGNEE(S): Sterling Drug Inc., USA
 SOURCE: U.S., 10 pp.
 CODEN: USXXAM
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 2
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3928427	A	19751223	US 1973-332267	19730214 <--
US 4022833	A	19770510	US 1975-582646	19750602 <--
US 4119668	A	19781010	US 1977-833485	19770915 <--
US 4140860	A	19790220	US 1978-916345	19780616 <--
PRIORITY APPLN. INFO.:			US 1971-123097	A2 19710310
			US 1973-332267	A3 19730214
			US 1975-582646	A3 19750602
			US 1976-739447	A3 19761108
			US 1977-833485	A3 19770715

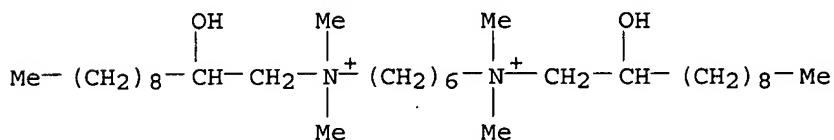
AB The title amines, [RCH(OH)CH₂NR₁]₂Z [I, R = normal C₅-10 alkyl, n-dodecyl, n-tridecyl; R₁ = H; Z = (CH₂)_n (n = 2, 3, 6, 8, 10), CH₂Z₁CH₂ (Z₁ = 1,4-cyclohexylene)], were prepared by reaction of R-substituted oxiranes with H₂NZNH₂ and were neutralized with hydrogen halides or monocarboxylic acids or methylated with HCHO to give the corresponding I (R₁ = Me) (II). II were neutralized as above, oxidized to the N,N'-dioxides, and quaternized with MeCl to give [RCH(OH)CH₂N₂Me₂]Z₂Cl⁻. Bactericidal data are given for I [R = n-nonyl, Z = (CH₂)₆] and the corresponding II dihydrobromide, N,N'-dioxide, and quaternary ammonium chloride.

IT 55778-86-4P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and bactericidal properties of)

RN 55778-86-4 HCAPLUS

CN 1,6-Hexanediaminium, N,N'-bis(2-hydroxyundecyl)-N,N,N',N'-tetramethyl-, dichloride (9CI) (CA INDEX NAME)



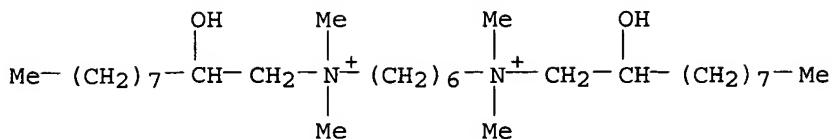
● 2 Cl⁻

IT 55778-87-5P 55778-88-6P

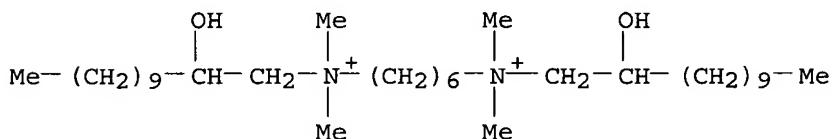
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 55778-87-5 HCAPLUS

CN 1,6-Hexanediaminium, N,N'-bis(2-hydroxydecyl)-N,N,N',N'-tetramethyl-, dichloride (9CI) (CA INDEX NAME)

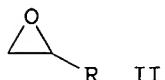
●2 Cl⁻

RN 55778-88-6 HCAPLUS
 CN 1,6-Hexanediaminium, N,N'-bis(2-hydroxydodecyl)-N,N,N',N'-tetramethyl-,
 dichloride (9CI) (CA INDEX NAME)

●2 Cl⁻

L21 ANSWER 33 OF 46 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1976:164137 HCAPLUS
 DOCUMENT NUMBER: 84:164137
 TITLE: N,N'-Alkylenebis[2-alkyl-2-hydroxyethylamines]
 PATENT ASSIGNEE(S): Sterling Drug Inc., USA
 SOURCE: Jpn. Kokai Tokkyo Koho, 23 pp.
 CODEN: JKXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

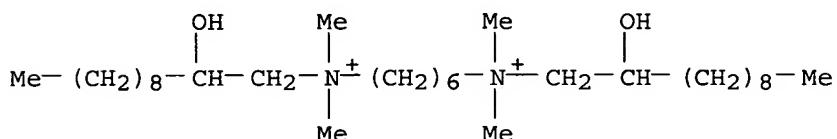
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 49127908	A2	19741207	JP 1973-44242	19730420 <--
PRIORITY APPLN. INFO.:			JP 1973-44242	A 19730420
GI				



AB RCH(OR₁)CH₂NR₂ZNR₂CH₂CH(OR₁)R (I; R = C₃-15 alkyl, C₄-7 cycloalkyl; R₁ = H, arylcarbamoyl; R₂ = H, C₁-4 primary and secondary alkyl; Z = C₂-12 alkylene, C₄-7 cycloalkylene, phenylene, vinylene and butynylene) and their acid and quaternary ammonium salts were prepared by treating oxirane derivs. (II) with R₂NHZNR₂ followed by optional arylcarbamoylation and salt formation. I were effective bactericides in vitro. Thus, a solution of

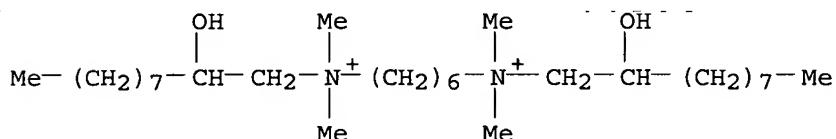
88.8 g II (R = nonyl) and 30.3 g H₂N(CH₂)₆NH₂ in MeOH was kept at 0° overnight and room temperature for 1 week to give I [R = nonyl, R₁ = R₂ = H, Z = (CH₂)₆], which was effective against Clostridium welchii at 10 ppm. Among 97 addnl. I similarly prepared were (R, R₁, R₂, Z given): Me(CH₂)₄, H, H, (CH₂)₆; nonyl, H, Me, (CH₂)₆, (2HBr); octyl, PhNHCO, Me, 1,4-cyclohexylenedimethylene; octyl, H, H, p-xylylene.

IT 55778-86-4P 55778-87-5P 55778-88-6P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)
 RN 55778-86-4 HCPLUS
 CN 1,6-Hexanediaminium, N,N'-bis(2-hydroxyundecyl)-N,N,N',N'-tetramethyl-, dichloride (9CI) (CA INDEX NAME)



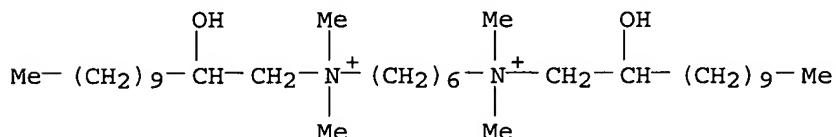
●2 Cl⁻

RN 55778-87-5 HCPLUS
 CN 1,6-Hexanediaminium, N,N'-bis(2-hydroxydecyl)-N,N,N',N'-tetramethyl-, dichloride (9CI) (CA INDEX NAME)



●2 Cl⁻

RN 55778-88-6 HCPLUS
 CN 1,6-Hexanediaminium, N,N'-bis(2-hydroxydodecyl)-N,N,N',N'-tetramethyl-, dichloride (9CI) (CA INDEX NAME)



●2 Cl⁻

ACCESSION NUMBER: 1976:90967 HCPLUS
 DOCUMENT NUMBER: 84:90967
 TITLE: Quaternized polymers
 INVENTOR(S): Jacquet, Bernard; Lang, Gerard
 PATENT ASSIGNEE(S): Oreal S. A., Fr.
 SOURCE: Ger. Offen., 61 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 5
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2521898	A1	19751204	DE 1975-2521898	19750516 <--
DE 2521898	C2	19870806		
BE 829082	A1	19751114	BE 1975-156360	19750514 <--
BE 829083	A1	19751114	BE 1975-156361	19750514 <--
NL 7505669	A	19751118	NL 1975-5669	19750514 <--
CH 611635	A	19790615	CH 1975-6220	19750514 <--
FR 2333012	A1	19770624	FR 1975-15161	19750515 <--
FR 2333012	B1	19820205		
CA 1074497	A1	19800325	CA 1975-227018	19750515 <--
AT 8004115	A	19850615	AT 1980-4115	19800811 <--
AT 379509	B	19860127		
PRIORITY APPLN. INFO.:			LU 1974-70095	A 19740516
			LU 1975-71848	A 19750214
			AT 1975-8647	A 19751113

AB 1,6-Dibromohexane-N,N'-didodecyl-N,N'-dimethyl-1,3-propanediamine copolymer [58296-07-4], 1,10-dibromodecane-N,N'-dibutyl-N,N'-dimethyl-1,6-hexanediamine copolymer [58296-05-2], 1,6-dibromohexane-bis[2-[(dodecyl)(methyl)amino]ethyl] disulfide copolymer [58295-85-5], 1,3-dibromo-2-propanol-N,N'-bis(2-hydroxyethyl)-N,N'-dioctyl-1,3-propanediamine copolymer [58295-81-1], 1,6-dibromohexane-1,3-dipiperidino-2-propanol copolymer [58295-80-0], and 15 similar quaternary copolymers were prepared. The copolymers were especially useful in cosmetic preps. for

hair, such as shampoos and waving lotions. Thus, 438 g N,N'-didodecyl-N,N'-dimethyl-1,3-propanediamine, 244 g 1,6-dibromohexane [629-03-8], and 3200 ml MeOH were refluxed 80 hr to prepare an EtOH-soluble polymer containing

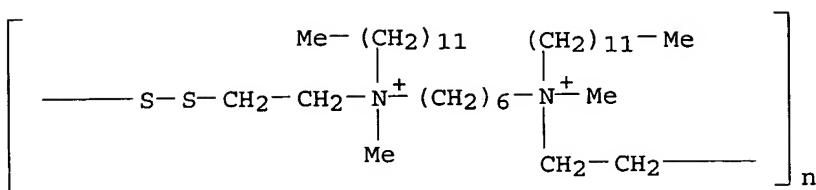
23.4% Br.

IT 58295-15-1P 58295-17-3P

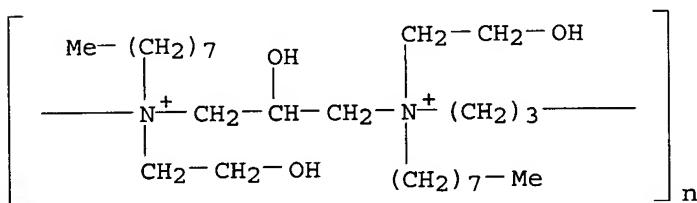
RL: PREP (Preparation)
 (preparation of)

RN 58295-15-1 HCPLUS

CN Poly[dithio-1,2-ethanediyl(dodecylmethyliiminio)-1,6-hexanediyi(dodecylmethyliiminio)-1,2-ethanediyl dibromide] (9CI) (CA INDEX NAME)

●2 Br⁻

RN 58295-17-3 HCPLUS
 CN Poly[[(2-hydroxyethyl)octyliminio](2-hydroxy-1,3-propanediyl)[(2-hydroxyethyl)octyliminio]-1,3-propanediyl dibromide] (9CI) (CA INDEX NAME)

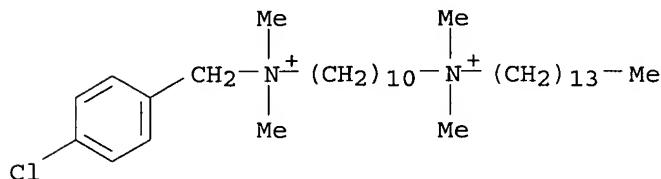
●2 Br⁻

L21 ANSWER 35 OF 46 HCPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1976:73627 HCPLUS
 DOCUMENT NUMBER: 84:73627
 TITLE: Antimicrobial compositions containing unsymmetrical oligoquaternary ammonium compounds
 INVENTOR(S): Bauman, Robert A.
 PATENT ASSIGNEE(S): Colgate-Palmolive Co., USA
 SOURCE: U.S., 7 pp.
 CODEN: USXXAM
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 3
 PATENT INFORMATION:

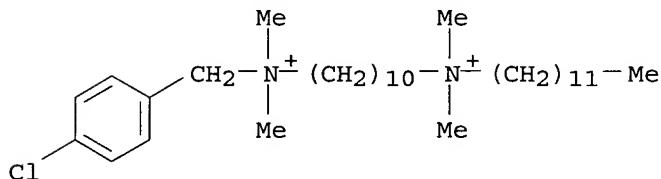
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	-----	-----	-----	-----
US 3925556	A	19751209	US 1974-506807	19740917 <--
PRIORITY APPLN. INFO.:			US 1968-716412	A2 19680327
			US 1970-82594	A3 19701021
			US 1971-185388	A1 19710930

AB Dodecyldimethylamine reacted with Br(CH₂)_nBr (n = 3, 4, 6, 8, 10) and PhCH₂NMe₂ to give oligoquaternary ammonium compds. Me(CH₂)₁₁N⁺Me₂(CH₂)_nN⁺Me₂CH₂Ph 2Br⁻, which exhibited bactericidal activity. Triquaternary compds. Me(CH₂)₁₁N⁺Me₂(CH₂)_nN⁺Me₂(CH₂)₂N⁺Me₂CH₂Ph 3Br⁻ (n = 4, 10) also showed bactericidal activity and were prepared from

IT Me (CH₂)₁₁N+Me₂(CH₂)_nBr Br-, Me₂N(CH₂)₂NMe₂, and PhCH₂Br.
 IT 50558-05-9 50558-10-6
 RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
 (bactericidal activity of)
 RN 50558-05-9 HCPLUS
 CN 1,10-Decanediaminium, N-[(4-chlorophenyl)methyl]-N,N,N',N'-tetramethyl-N'-tetradecyl-, dibromide (9CI) (CA INDEX NAME)

●2 Br⁻

RN 50558-10-6 HCPLUS
 CN 1,10-Decanediaminium, N-[(4-chlorophenyl)methyl]-N'-dodecyl-N,N,N',N'-tetramethyl-, dibromide (9CI) (CA INDEX NAME)

●2 Br⁻

L21 ANSWER 36 OF 46 HCPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1975:432895 HCPLUS
 DOCUMENT NUMBER: 83:32895
 TITLE: Use of polyquaternary ammonium methylene phosphonates to chelate or inhibit formation of scale
 INVENTOR(S): Quinlan, Patrick M.
 PATENT ASSIGNEE(S): Petrolite Corp., USA
 SOURCE: U.S., 11 pp. Division of U.S. 3,792,084 (CA 81;91729f).
 CODEN: USXXAM
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 3
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	-----	-----	-----	-----
US 3867286	A	19750218	US 1973-410714	19731029 <--

US 3792084 A 19740212 US 1972-237883 19720324 <--
 PRIORITY APPLN. INFO.: US 1972-237883 A3 19720324

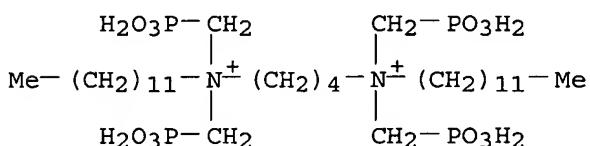
AB Amines are phosphomethylolated by the Mannich reaction which requires cooling during reaction which proceeds from 80° to 150°. The preferred reactants are CH₂O, H₃PO₃, and polyamines, e.g. diethylene triamine, dipropylene triamine, triethylene tetramine, tripropylene tetramine, tetraethylene pentamine, tetrapropylene pentamine, polyalkyleneimines, and any other high mol. weight amines derived from alkyleneimines. Thus, (H₂PO₃CH₂)₂NCH₂CH₂N(CH₂PO₃H₂)₂ 41 g and H₂O 50 ml was added 1,4-dichlorobutene-2. This mixture was stirred, heated, and refluxed until homogeneous. The viscous liquid was water-soluble. These compds. are used to inhibit scale formation when present in 0.1-100 ppm. It is applicable to use in chelation or sequestration of metal ions, as a microbiocide, in water flooding in secondary recovery of oils, and as biocide in hydrocarbon treatment.

IT 53722-35-3P

RL: PREP (Preparation)
 (scale inhibitor, preparation of)

RN 53722-35-3 HCPLUS

CN 1,4-Butanediaminium, N,N'-didodecyl-N,N',N'-tetrakis(phosphonomethyl)-, dibromide, octasodium salt (9CI) (CA INDEX NAME)



●2 Br⁻

●8 Na

L21 ANSWER 37 OF 46 HCPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1975:170033 HCPLUS

DOCUMENT NUMBER: 82:170033

TITLE: Antibacterial N,N'-bridged bis(2-alkyl-2-hydroxy)ethylamines

INVENTOR(S): Diana, Guy D.; Cutler, Royal A.

PATENT ASSIGNEE(S): Sterling Drug Inc., USA

SOURCE: Brit., 13 pp.

CODEN: BRXXAA

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
GB 1377449	A	19741218	GB 1973-15743	19730402 <--
PRIORITY APPLN. INFO.:			GB 1973-15743	A 19730402
AB The title compds. [Me(CH ₂) _n CH(OH)CH ₂ NR] ₂ (CH ₂) _m (I, R = H, Me, n = 3-9, 11,				

12, m = 2, 3, 6, 8, 10), their acid addition salts, and related N,N'-dioxides and diammonium quaternary salts were prepared by condensing epoxides with diamines. Thus, I (R = H, n = 8, m = 6) was prepared by treating 1-undecene oxide with H2N(CH2)6NH2 successively overnight at 0° and 2 days at room temperature. Forty-nine compds. were prepared. In vitro antibacterial activities were determined by standard serial dilution tests.

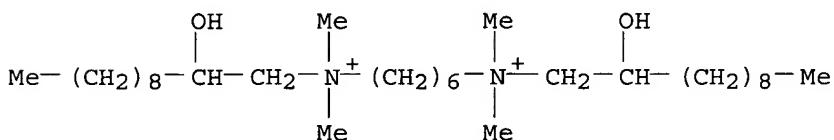
IT 55778-86-4P 55778-87-5P 55778-88-6P

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)

(bactericide, preparation of)

RN 55778-86-4 HCPLUS

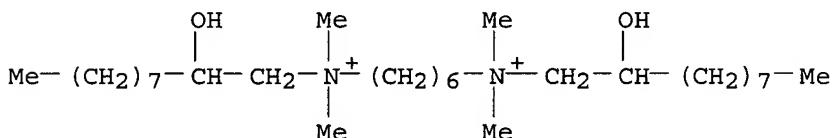
CN 1,6-Hexanediaminium, N,N'-bis(2-hydroxyundecyl)-N,N,N',N'-tetramethyl-, dichloride (9CI) (CA INDEX NAME)



●2 Cl⁻

RN 55778-87-5 HCPLUS

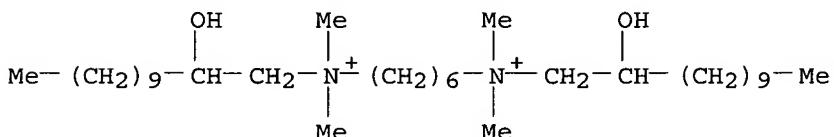
CN 1,6-Hexanediaminium, N,N'-bis(2-hydroxydecyl)-N,N,N',N'-tetramethyl-, dichloride (9CI) (CA INDEX NAME)



●2 Cl⁻

RN 55778-88-6 HCPLUS

CN 1,6-Hexanediaminium, N,N'-bis(2-hydroxydodecyl)-N,N,N',N'-tetramethyl-, dichloride (9CI) (CA INDEX NAME)



●2 Cl⁻

L21 ANSWER 38 OF 46 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1974:491729 HCAPLUS
 DOCUMENT NUMBER: 81:91729
 TITLE: Polyquaternary ammonium methylene phosphonates and uses thereof
 INVENTOR(S): Quinlan, Patrick M.
 PATENT ASSIGNEE(S): Petrolite Corp.
 SOURCE: U.S., 10 pp.
 CODEN: USXXAM
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 3
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3792084	A	19740212	US 1972-237883	19720324 <--
US 3867286	A	19750218	US 1973-410714	19731029 <--
US 3966630	A	19760629	US 1973-412603	19731105 <--
US 4164574	A	19790814	US 1977-842147	19771014 <--
PRIORITY APPLN. INFO.:			US 1972-237883	A3 19720324
			US 1973-414946	A3 19731112

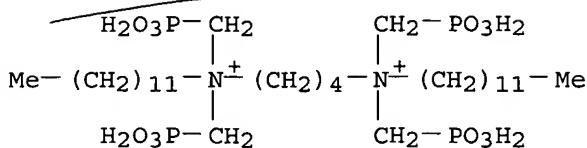
AB Phosphonomethylamines were quaternized with alkyl halides to give the title compds. E.g. $[(HO)_2P(O)CH_2]_2NCH_2CH_2N-[CH_2P(O)(OH)_2]_2$ (I) treated with $MeCl$ gave $[(HO)_2P(O)CH_2]_2N+R[CH_2CH_2N+RCH_2P(O)(OH)_2]_nCH_2P(O)(OH)_2$. ($n + 1$) X_2- (II, $R = Me$, $n = 1$, $X = Cl$). Similarly prepared were II ($R = Et$, $n = 2$, $X = Br$; $R = Me$, $n = 3$, $X = Cl$; $R = Me$, $n = 4$, $X = iodide$). $BuN[CH_2P(O)(OH)_2]_2$ treated with $ClCH_2-CH:CHCH_2Cl$ and neutralized with $NaOH$ gave $[(NaO)_2-P(O)CH_2]_2N+BuCH_2CH:CHCH_2N+Bu[CH_2P(O)(ONa)_2]_2.2Cl^-$. Similarly prepared were $[(NaO)_2P(O)CH_2]_2N+R(CH_2)_4N+R[CH_2-P(O)(ONa)_2]_2.2Br^-$ ($R = cyclohexyl$, C12H25). Polymeric quaternary ammonium methylenephosphonates were obtained from I or $[(HO)_2P(O)CH_2]_2N(CH_2)_3N[CH_2P(O)(OH)_2]_2$ and $ClCH_2-CH:CHCH_2Cl$ or $Br(CH_2)_4Br$. The compds. inhibited scale formation from a 200 ppm $CaCO_3$ solution at 180°F 4 hr, sequestered 50-120 ppm Fe^{3+} , Al^{3+} , Cu^{2+} , Ni^{2+} per 60 ppm sequesterant, and inhibited growth of *Desulforobacter desulfuricans* in hydrocarbon oils.

IT 53722-35-3P

RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)

RN 53722-35-3 HCAPLUS

CN 1,4-Butanediaminium, N,N'-didodecyl-N,N,N',N'-tetrakis(phosphonomethyl)-, dibromide, octasodium salt (9CI) (CA INDEX NAME)



● 2 Br⁻

● 8 Na

L21 ANSWER 39 OF 46 HCPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1973:496997 HCPLUS

DOCUMENT NUMBER: 79:96997

TITLE: Oral preparation containing unsymmetrical oligoquaternary ammonium compounds

INVENTOR(S): Baumann, Robert A.

PATENT ASSIGNEE(S): Colgate-Palmolive Co.

SOURCE: U.S., 7 pp.

CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 3

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3749767	A	19730731	US 1971-185444	19710930 <--
PRIORITY APPLN. INFO.:			US 1968-716412	A2 19680327
			US 1970-82594	A2 19701021

AB The oral preparation consists of a dentally acceptable H₂O-insol. polishing agent and an effective amount of antimicrobial composition consisting of 0.1-5% by weight of an unsymmetrical polyonium quaternary ammonium compound [RR₁2N⁺(CH₂)_nN⁺R₂Y]_nX⁻. Thus, n-dodecyldimethylamine was treated with a large excess of Br(CH₂)_nBr in H₂O at 25-40° to form n-dodecyldimethyl(ω-bromoalkyl)ammonium bromide. This quaternary ammonium was refluxed in H₂O with a 2-fold excess of dimethyl(p-chlorobenzyl)amine to give a bis-quaternary ammonium bromide. The antimicrobial spectrum of the compds. was given and the effectiveness of the compds. in reducing caries formation in hamsters was shown. A typical oral preparation (dental cream) contains quaternary [n-C₁₄H₂₉N+Me₂(CH₂)₁₀N+Me₂CH₂C₆H₄Cl-p]Br₂ 0.5, NaOBz 0.15, saccharin 0.2, insol. NaPO₃ 42.1, Ca₂HPO₄.2H₂O 5.0, TiO₂ 0.4, gum tragacanth 1.4, oil of wintergreen 1.0, color 0.03, H₂O 22.12, and glycerin (99.3%) 27.10 parts by weight

IT 50558-05-9 50558-10-6

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(bactericide, in dentifrices, for calculus and caries prevention)

RN 50558-05-9 HCPLUS

CN 1,10-Decanediaminium, N-[(4-chlorophenyl)methyl]-N,N,N',N'-tetramethyl-N'-tetradecyl-, dibromide (9CI) (CA INDEX NAME)

JP 1972-9019	A 19720126
JP 1970-68145	A 19700804
JP 1971-30390	A 19710510
JP 1971-30394	A 19710510
US 1971-168413	A3 19710802
US 1972-250653	A3 19720505

AB Amphoteric surfactants are used for laundering textiles, cleaning carpets, and washing hair, foods, and glass. The surfactants do not irritate skin, and they give soft, antistatic textiles. The surfactants are C14H29CHOHCH2NHCH2CO2Na (I), C10H21CHOHCH2NHCH(CO2Li)CH2CH2CO2Li, C16H33CHOHcH2N [(CH2CH2O)5H]CHMeCO2NH2 (Ch2CH2OH)2, C14H29CH [O(CH2CH2O)pH]CH2N [(CH2CH2O)qH]CH(CO2Na)CH2CH2CO2Na (p + q = 20), C16H33CHOHCH2NH(CH2)3NHCH2CH2CO2Na, and 51 similar compds. Thus, a mixture of I 10, Na metasilicate 5, soda ash 8, and Na sulfate decahydrate 77 parts is used (0.165%) in water to launder acrylic textiles, giving soft, clean, antistatic textiles.

IT 39329-96-9

RL: USES (Uses)
(amphoteric surfactants, detergent compns. containing)

RN 39329-96-9 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), α -hydro- ω -hydroxy-, ether with N,N'-bis(carboxymethyl)-N,N'-bis(2-hydroxydodecyl)-N,N'-bis(2-hydroxyethyl)-1,2-ethanediaminium dihydroxide, compd. with 2,2',2''-nitrilotris[ethanol] (4:1:2) (9CI) (CA INDEX NAME)

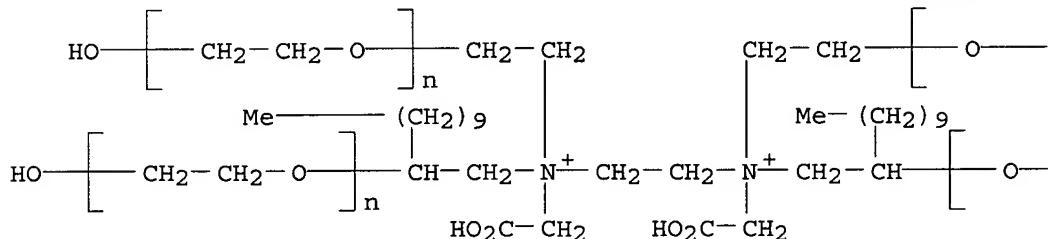
CM 1

CRN 50973-04-1

CMF (C2 H4 O)n (C2 H4 O)n (C2 H4 O)n (C2 H4 O)n C34 H70 N2 O8 . 2 H O

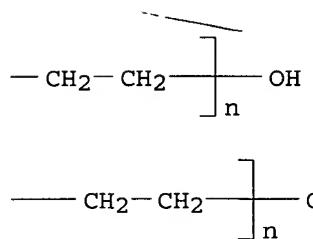
CCI PMS

PAGE 1-A

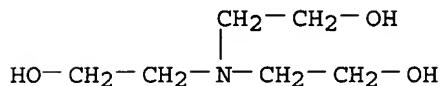


● 2 OH-

PAGE 1-B



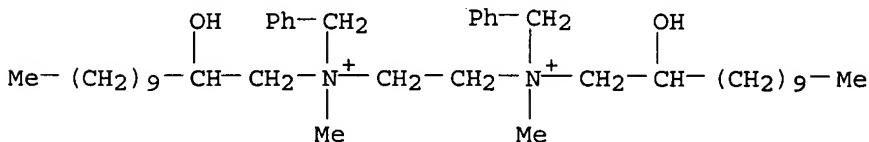
CM 2

CRN 102-71-6
CMF C6 H15 N O3

L21 ANSWER 41 OF 46 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1972:474820 HCAPLUS
 DOCUMENT NUMBER: 77:74820
 TITLE: Antibacterial (2-hydroxyalkyl)benzylmethylammonium bromides
 INVENTOR(S): Temple, Robert D.
 PATENT ASSIGNEE(S): Procter and Gamble Co.
 SOURCE: Ger. Offen., 30 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2151719	A	19720420	DE 1971-2151719	19711018 <--
US 3719711	A	19730306	US 1970-82067	19701019 <--
FR 2111700	A5	19720609	FR 1971-37370	19711018 <--
FR 2111700	B1	19750606		
GB 1322636	A	19730711	GB 1971-48369	19711018 <--
PRIORITY APPLN. INFO.:			US 1970-82067	A 19701019

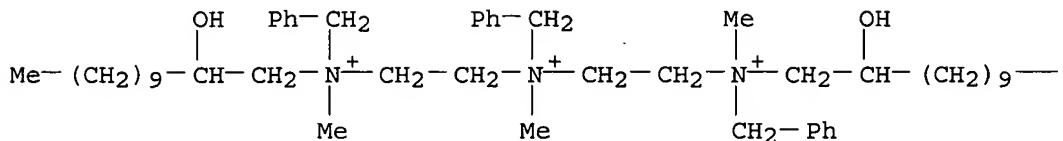
GI For diagram(s), see printed CA Issue.
 AB Six title compds. $\text{RCH}_2\text{CH}(\text{OH})-\text{[CH}_2\text{N+Me(CH}_2\text{Ph)CH}_2\text{]}_n\text{CH}(\text{OH})\text{CH}_2\text{R Brn-}$ (I; $n = 2-4$ s $\text{R} = \text{C}_8\text{H}_17\text{O}$ or C_9H_19), useful as antibact-dimethyl-ethylenediamine (II), $\text{N},\text{N}',\text{N}''$ -trimethyldiethylenetriamine, or $\text{N},\text{N}',\text{N}''',\text{N}''''$ -tetramethyltriethylenetetramine with III and PhCH_2Br (IV). Thus, refluxing II and III ($\text{R} = \text{C}_8\text{H}_17\text{O}$) in EtOH 16 hr, addition of IV, and refluxing 24 hr gave I ($\text{R} = \text{C}_8\text{H}_17\text{O}$, $n = 2$).
 IT 36557-86-5P 36557-87-6P 36557-88-7P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)
 RN 36557-86-5 HCAPLUS
 CN 1,2-Ethanediiminium, N,N' -bis(2-hydroxydodecyl)- N,N' -dimethyl- N,N' -bis(phenylmethyl)- (9CI) (CA INDEX NAME)



RN 36557-87-6 HCAPLUS
 CN 1,2-Ethanediiminium, N -(2-hydroxydodecyl)- N' -[2-[(2-hydroxydodecyl)methyl(phenylmethyl)ammonio]ethyl]- N,N' -dimethyl- N,N' -

bis(phenylmethyl)- (9CI) (CA INDEX NAME)

PAGE 1-A



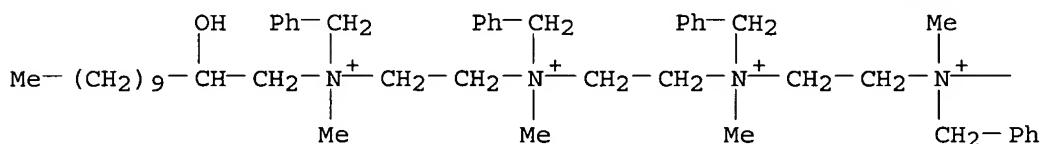
PAGE 1-B

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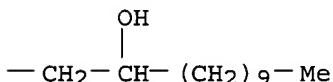
RN 36557-88-7 HCPLUS

CN 1,2-Ethanediiminium, N,N'-bis[2-[(2-hydroxydodecyl)methyl(phenylmethyl)ammonio]ethyl]-N,N'-dimethyl-N,N'-bis(phenylmethyl)- (9CI) (CA INDEX NAME)

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L21 ANSWER 42 OF 46 HCPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1972:407701 HCPLUS

DOCUMENT NUMBER: 77:7701

TITLE: Detergent compositions containing an amphoteric surfactant

INVENTOR(S): Marumo, Hideo

SOURCE: Ger. Offen., 33 pp.

CODEN: GWXXBX

DOCUMENT TYPE: Patent

LANGUAGE: German

FAMILY ACC. NUM. COUNT: 4

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2139074	A	19720210	DE 1971-2139074	19710804 <--
DE 2139074	B2	19760826		
DE 2139074	C3	19770512		

JP 54001723	B4	19790129	JP 1970-68145	19700804 <--
JP 50013805	B4	19750522	JP 1971-30390	19710510 <--
JP 51018961	B4	19760614	JP 1971-30391	19710510 <--
GB 1361627	A	19740730	GB 1971-35890	19710730 <--
US 3719613	A	19730306	US 1971-168413	19710802 <--
GB 1398276	A	19750618	GB 1972-21872	19720510 <--
GB 1398277	A	19750618	GB 1974-45107	19720510 <--
US 3850853	A	19741126	US 1972-283039	19720823 <--
US 3888797	A	19750610	US 1973-357579	19730507 <--

PRIORITY APPLN. INFO.:

JP 1970-68145	A 19700804
JP 1971-30390	A 19710510
JP 1971-30391	A 19710510
JP 1971-30394	A 19710510
US 1971-168413	A3 19710802
JP 1972-9019	A 19720126
US 1972-250653	A3 19720505

AB The title surfactants which impart antistatic properties and soil repellency to, e.g., textiles comprise at least 1 water-insol. metal salt of an amphoteric surfactant. Thus, 10 parts 1-(carboxymethyl)-2-heptadecyl-1-(2-hydroxymethyl)-2-imidazolinium hydroxide calcium salt (I) [13039-21-9] was heated and melted at 110.deg.; 2.2 parts II was added and stirred to make a homogeneous melt. Boiling water (87.8 parts) was added to thin the mixture. The mixture was homogenized and cooled to give a paste. An acrylic test fabric was soiled with oily soil prepared from molten paraffin nad soybean oil. The fabric was washed in a washing machine containing a small amount of the surfactant, rinsed, dried, and tested. The fabric sample had oil removal 98%, antistatic charge half-life 0.1 sec, surface resistance 2.3 .tim. 109 Ω , and soft hand compared with 72, .inf., >1015 and stiff hand for a sample similarly prepared but washed with a com. surfactant.

IT - 37222-59-6

RL: USES (Uses)

(antistatic and soil repelling agents, for textiles)

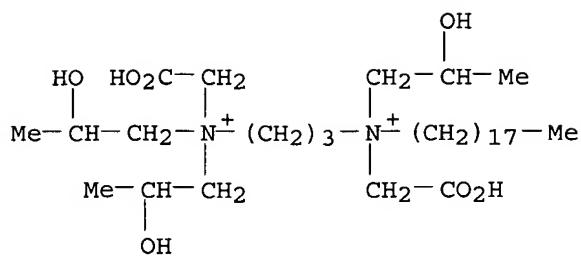
RN 37222-59-6 HCAPLUS

CN 1,3-Propanediaminium, N,N'-bis(carboxymethyl)-N,N,N'-tris(2-hydroxypropyl)-N'-octadecyl-, dihydroxide, barium salt (1:1), mixt. with α -hydro- ω -hydroxypoly(oxy-1,2-ethanediyl) ether with N-(carboxymethyl)-2-hydroxy-N-[3-[(2-hydroxydocosyl)(2-hydroxyethyl)amino]propyl]-N-(2-hydroxyethyl)-1-docosanaminium hydroxide (4:1) calcium salt (2:1) (9CI) (CA INDEX NAME)

CM 1

CRN 55852-77-2

CMF C34 H70 N2 O7 . Ba . 2 H O



● Ba

$$\bullet_2 \text{ OH}^-$$

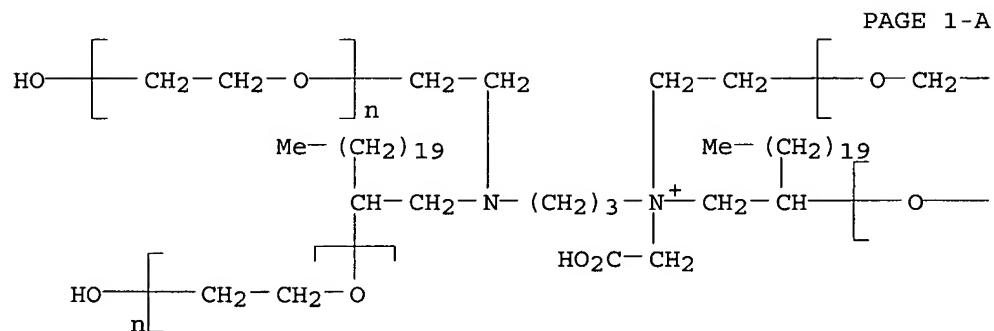
CM 2

CRN 37224-66-1

CMF (C2 H4 O)n (C2 H4 O)n (C2 H4 O)n (C2 H4 O)n C53 H109 N2 O6 . 1/2 Ca .

H O

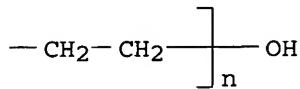
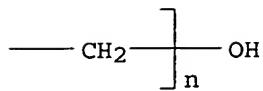
CCI PMS



• 1/2 Ca

● OH⁻

PAGE 1-B



L21 ANSWER 43 OF 46 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1972:129208 HCAPLUS
 DOCUMENT NUMBER: 76:129208
 TITLE: Skin-cleaning agents for toilet soaps
 PATENT ASSIGNEE(S): Unilever N. V.
 SOURCE: Neth. Appl., 57 pp.
 CODEN: NAXXAN
 DOCUMENT TYPE: Patent
 LANGUAGE: Dutch
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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NL 7008839		19711221	NL	19700617 <--

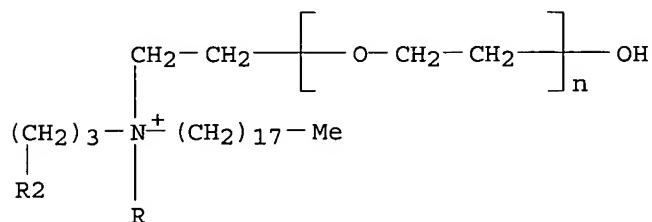
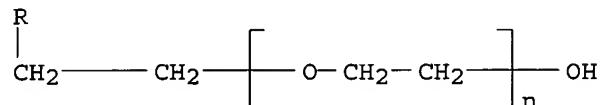
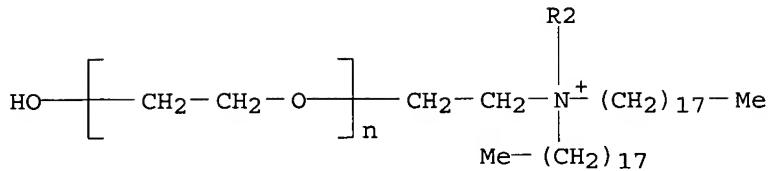
AB Toilet soaps which made skin feel smooth after washing contained .leq.15% of one or more poly(ethylene oxide)quaternary ammonium compds., which contained .geq.3 oxyethylene units per chain. Thus, 14:1 ethylene oxide-tallow alc. adduct was treated with epichlorohydrin in the presence of BF₃.Et₂O to give the chlorohydroxyethyl ether and then with dimethyloctadecylamine to give the quaternary ammonium chloride. These compds. dispersed Ca soaps, generally gave clear solns. with anionic surfactants, were not irritating to skin, and increased water absorption when applied to leather.

IT 36496-16-9

RL: USES (Uses)
 (toilet soaps containing, nonirritating)

RN 36496-16-9 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), α -hydro- ω -hydroxy-, ether with N,N,N'-tris(2-hydroxyethyl)-N,N',N'-trioctadecyl-1,3-propanediaminium dibromide (3:1) (9CI) (CA INDEX NAME)



● 2 Br⁻

L21 ANSWER 44 OF 46 HCPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1970:68522 HCPLUS
DOCUMENT NUMBER: 72:68522
TITLE: Low-foaming detergents containing bisquaternary
compounds
PATENT ASSIGNEE(S): Henkel und Cie. G.m.b.H.
SOURCE: Fr., 4 pp.
CODEN: FRXXAK
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 1567214		19690516		<--

DE 1617126 DE
PRIORITY APPLN. INFO.: DE 19670301
GI For diagram(s), see printed CA Issue.
AB Mixts. of bisquaternary compds. (I), condensation products of ethylene oxide, and detergent alkalies (principally Na polyphosphates) are used as low-foaming detergents. I are prepared by tetra-substitution of diamines by the Leuckart-Wallach reaction and subsequent quaternization. In a typical formulation, 25% I (R1 = R2 = C18H37; R3 = R4 = R5 = R6 = Me; n = 12, X =

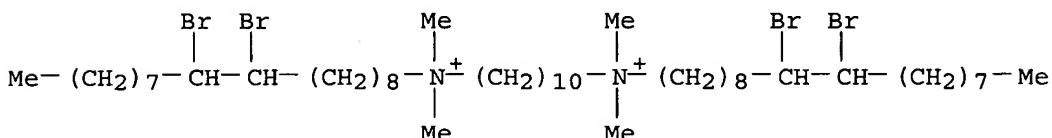
Cl), 25% of the addition product of ethylene oxide with oleyl alc., and 50% detergent alkalies are used. The detergents incorporate brightening ability, impart softness to the fabric, and are suitable for use in automatic washing machines.

IT 27200-76-6

RL: TEM (Technical or engineered material use); USES (Uses)
(detergents containing)

RN 27200-76-6 HCAPLUS

CN Ammonium, decamethylenebis[(9,10-dibromoocadecyl)dimethyl-, dibromide (8CI) (CA INDEX NAME)



● 2 Br-

L21 ANSWER 45 OF 46 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1965:479761 HCAPLUS

DOCUMENT NUMBER: 63:79761

ORIGINAL REFERENCE NO.: 63:14621e-h

TITLE: Betaines as fuel oil stabilizers

INVENTOR(S): Udelhofen, John H.

PATENT ASSIGNEE(S): Standard Oil Co.

SOURCE: 6 pp.

DOCUMENT TYPE: Patent

LANGUAGE: Unavailable

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3198613	-----	19650803	US	19600505 <--
PRIORITY APPLN. INFO.:			US	19600505

AB Compds. of the general formula R1(R2)(R3)N+RCO2- (I) (including its bis derivs.) and (-O2CRN+R22RCO2)nM (II) are antioxidants for heating oils. In I and II, R is a C1-4 alkylidene group (e.g. CH2), R1 is an amino alkyl (eg. CH2CH2NH2) or an alkali- or alkaline earth-metal carboxylate group (e.g. CH2CO2Na), R2 is a C10-22 alkyl group usually derived from natural fats and oils (e.g. hydroxylated tallow fatty acid), R3 may be either R1 or R2, and M is an alkali or alkaline-earth metal of valence n (1 or 2). For example, a mixture of 5.94 g. N,N-ditallow-1,3-propylenediamine (Duomeen 2HT), 1.2 g. ClCH2CO2Na, and 1 crystal of KI (catalyst) in 30 ml. BuOH was refluxed 24 hrs. The mixture was filtered and vacuum distilled to remove the solvent. The filtrate yielded 6 g. N-(carboxymethyl)-N-(3-aminopropyl)-N,N-ditallowamine betaine (III). Similarly prepared were N(carboxybutyl)-N-(ethylaminoethyl)-N-ethyl-N-decyllamine, N,N,N'-tristearyl- N' - ethylaminoethyl - N, N' - bis(carboxymethyl)ethylenediamine, N- (carboxymethyl) - N- tallow- N- methyl N- aminopropylamine, N - (carboxymethyl) - N, N- ditallow N-aminoethylaminoethylaminoethylamine, the mono-Na salt of N,N-bis(carboxymethyl)-N,N-ditallowamine (IV), the mono-K salt of N,N-bis(carboxybutyl)-N,N-didodecylamine, Ba bis[2- (N-tallow-N-methyl-N-

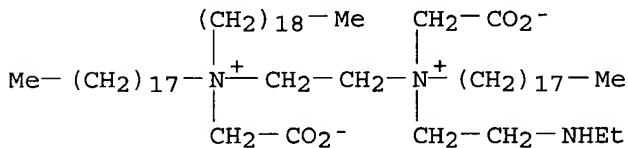
carboxymethylamino)acetate], and Ca bis[2-[N,N-dioleyl-N-(carboxymethyl)amino]acetate]. A base furnace oil (V) was prepared from equal vols. of light catalytic cycle oil and virgin gas oil. To one sample was added 0.003 weight % III (sample A) and to another 0.01 weight % IV (sample B). All 3 samples were aged in the dark at 200°F. for 20 hrs., then at 70°F. for 48 hrs. and tested (sediment test (% insolubles), soluble gum test (%), water flocculation test (appearance), N.P.A. color test (color), and emulsification test (min.) given for V, A, and B, resp.): 4.6, 1.4, 0.5; 37.4, 18.6, 14.7; black, brown, light brown; 4+, 3.5, 3.5; 11.56, 33.

IT 856586-00-0, Ammonium, N-[2-(ethylamino)ethyl]-N,N',N'-trioctadecyl-N,N'-ethylenabis[N-(carboxymethyl)-, hydroxide, bis(inner salt)

(preparation of)

RN 856586-00-0 HCAPLUS

CN Ammonium, N-[2-(ethylamino)ethyl]-N,N',N'-trioctadecyl-N,N'-ethylenabis[N-(carboxymethyl)-, hydroxide, bis(inner salt) (7CI) (CA INDEX NAME)



L21 ANSWER 46 OF 46 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1937:35400 HCAPLUS

DOCUMENT NUMBER: 31:35400

ORIGINAL REFERENCE NO.: 31:4992a-b

TITLE: Quaternary ammonium compounds

PATENT ASSIGNEE(S): I. G. Farbenindustrie AG

DOCUMENT TYPE: Patent

LANGUAGE: Unavailable

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
FR 806662	FR	19361222	FR	<--

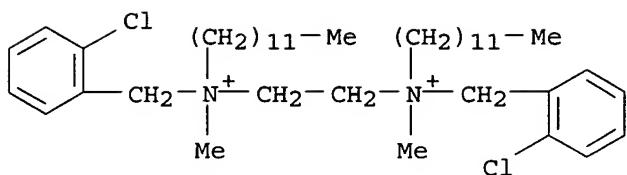
AB An aliphatic radical of high mol. weight is introduced into tertiary amines, substituted in the N by a halobenzene radical having an aliphatic bond, by the action of esters of aliphatic alcs. of high mol. weight Examples are given of the preparation of dimethyl(o-chlorobenzyl)octylammonium bromide, di-methyl(p-iodobenzyl)decylammonium bromide, di-methyl(3,4-dichlorobenzyl)dodecylammonium chloride, dimethyl(β-hydroxy-γ-dodecyloxypropyl) (trichlorobenzyl)ammonium chloride, diethyl(o-chlorobenzyl)dodecylthioethylammonium bromide, N-diethyl-N'-methyl-N'-(o-chlorobenzyl)-N,N'-diocetylthioethylenediammonium bromide, dimethyl(o-hydroxy-p-chlorobenzyl)octadecylammonium bromide and N,N'-dimethyl-N,N'-bis(o-chlorobenzyl)-N,N'-didodecylthioethylenediammonium chloride.

IT 857606-25-8, Ammonium, ethylenabis, [o-chlorobenzyl)dodecylmethyl-chloride]

(preparation of)

RN 857606-25-8 HCAPLUS

CN Ammonium, ethylenabis, [o-chlorobenzyl)dodecylmethyl-chloride] (4CI) (CA INDEX NAME)



●2 Cl⁻

=> d stat que 125
L1 STR

C~~ G2~~ N~~ G1~~ N
5 1 2 3 4

REP G1=(1-10) CH2
REP G2=(7-19) C

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 5

STEREO ATTRIBUTES: NONE

L2 18869 SEA FILE=REGISTRY SSS FUL L1
L3 STR

C~~ G2~~ N C~~ G2~~ N
5 1 2 8 7 6

REP G2=(7-19) C

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 6

STEREO ATTRIBUTES: NONE

L4 5461 SEA FILE=REGISTRY SUB=L2 SSS FUL L3
L17 STR

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1031626	A1	20000830	EP 2000-103816	20000223
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
CA 2299119	AA	20000823	CA 2000-2299119	20000222
JP 2000342259	A2	20001212	JP 2000-45524	20000223

PRIORITY APPLN. INFO.:

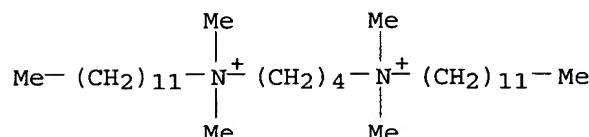
AB Polycations that can be used to stabilize nucleic acids during extraction and purification are described. The compds. have two closely-linked cationic centers, preferably nitrogens. Complexes between these polycations and nucleic acids are larger and sediment more rapidly than those prepared with prior art cationic polymers such as tetradecyltrimethylammonium oxalate. Use of the reagents to purify DNA and RNA from a number of sources is demonstrated.

IT 6309-01-9P 15590-93-9P 18464-23-8P
21948-95-8P 21948-96-9P 29104-93-6P
29908-17-6P 40661-04-9P 40661-10-7P
71753-44-1P 71753-45-2P 75174-83-3P
86009-95-2P 87723-15-7P 114669-76-0P
114669-77-1P 157782-11-1P 207726-16-7P
207726-17-8P 207726-18-9P 207726-19-0P
254106-19-9P 289618-11-7P 289618-12-8P

RL: MOA (Modifier or additive use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(preparation and use in nucleic acid purification of; use of polycations in stabilization and extraction of nucleic acids)

RN 6309-01-9 HCPLUS

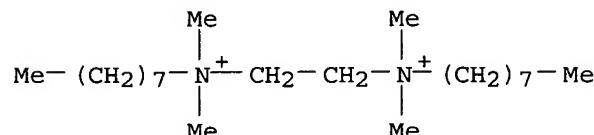
CN 1,4-Butanediaminium, N,N'-didodecyl-N,N,N',N'-tetramethyl-, dibromide (9CI) (CA INDEX NAME)



●2 Br⁻

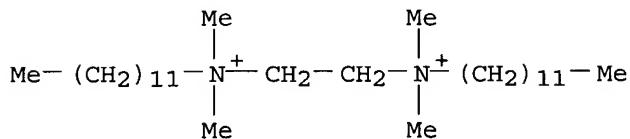
RN 15590-93-9 HCPLUS

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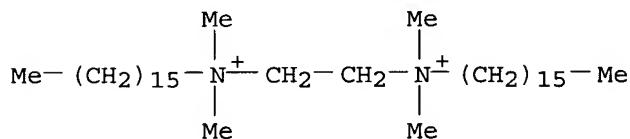


●2 Br⁻

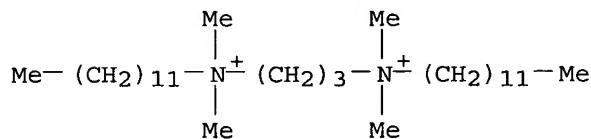
RN 18464-23-8 HCAPLUS

CN 1,2-Ethanediaminium, N,N'-didodecyl-N,N,N',N'-tetramethyl-, dibromide
(9CI) (CA INDEX NAME)●2 Br⁻

RN 21948-95-8 HCAPLUS

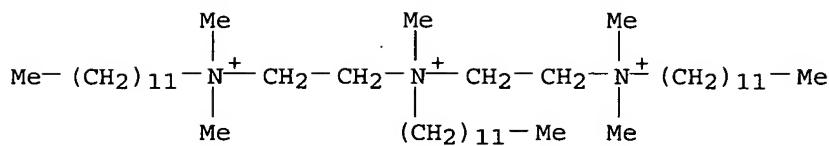
CN 1,2-Ethanediaminium, N,N'-dihexadecyl-N,N,N',N'-tetramethyl-, dibromide
(9CI) (CA INDEX NAME)●2 Br⁻

RN 21948-96-9 HCAPLUS

CN 1,3-Propanediaminium, N,N'-didodecyl-N,N,N',N'-tetramethyl-, dibromide
(9CI) (CA INDEX NAME)●2 Br⁻

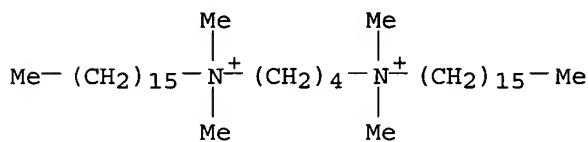
RN 29104-93-6 HCAPLUS

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N,N',N'-trimethyl-, tribromide (9CI) (CA INDEX NAME)



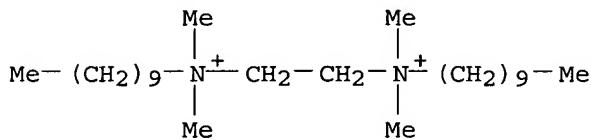
● 3 Br⁻

RN 29908-17-6 HCPLUS
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 (9CI) (CA INDEX NAME)



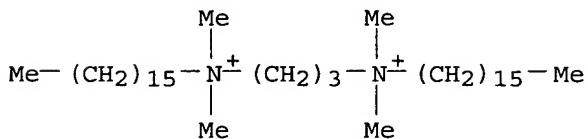
● 2 Br⁻

RN 40661-04-9 HCPLUS
 CN 1,2-Ethanediaminium, N,N'-didecyl-N,N,N',N'-tetramethyl-, dibromide (9CI)
 (CA INDEX NAME)



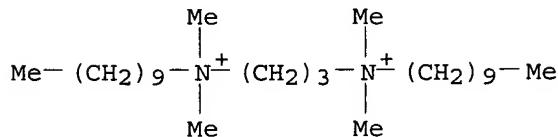
● 2 Br⁻

RN 40661-10-7 HCPLUS
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 (9CI) (CA INDEX NAME)

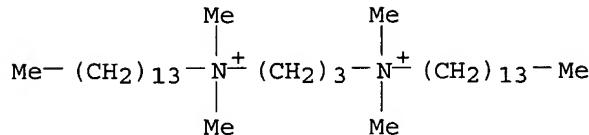


● 2 Br⁻

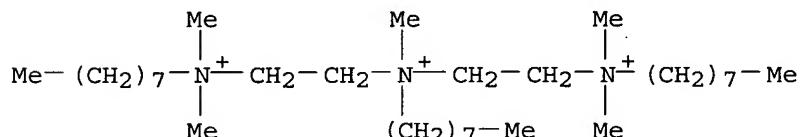
RN 71753-44-1 HCAPLUS

CN 1,3-Propanediaminium, N,N'-didecyl-N,N,N',N'-tetramethyl-, dibromide (9CI)
(CA INDEX NAME)●2 Br⁻

RN 71753-45-2 HCAPLUS

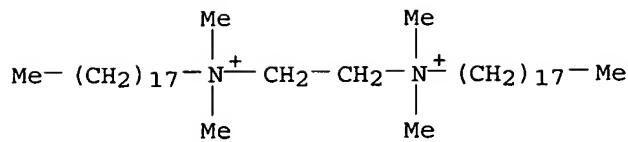
CN 1,3-Propanediaminium, N,N,N',N'-tetramethyl-N,N'-ditetradecyl-, dibromide
(9CI) (CA INDEX NAME)●2 Br⁻

RN 75174-83-3 HCAPLUS

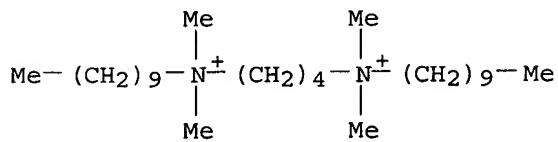
CN 1,2-Ethanediaminium, N-[2-(dimethyloctylammonio)ethyl]-N,N',N'-trimethyl-
N,N'-dioctyl-, tribromide (9CI) (CA INDEX NAME)●3 Br⁻

RN 86009-95-2 HCAPLUS

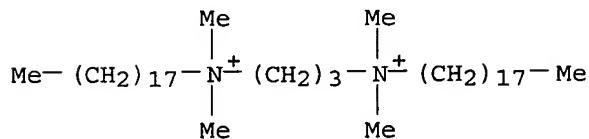
CN 1,2-Ethanediaminium, N,N,N',N'-tetramethyl-N,N'-dioctadecyl-, dibromide
(9CI) (CA INDEX NAME)

●2 Br⁻

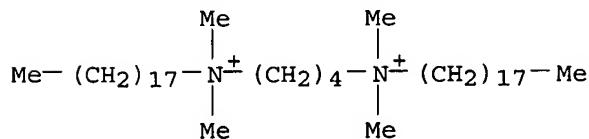
RN 87723-15-7 HCAPLUS
 CN 1,4-Butanediaminium, N,N'-didecyl-N,N',N'-tetramethyl-, dibromide (9CI)
 (CA INDEX NAME)

●2 Br⁻

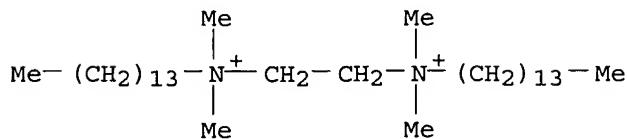
RN 114669-76-0 HCAPLUS
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 (9CI) (CA INDEX NAME)

●2 Br⁻

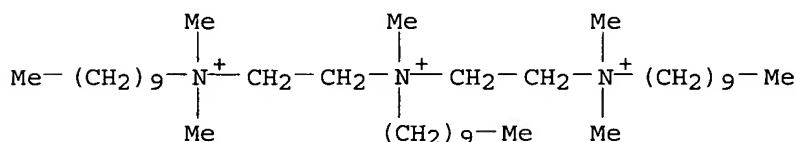
RN 114669-77-1 HCAPLUS
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 (9CI) (CA INDEX NAME)

●2 Br⁻

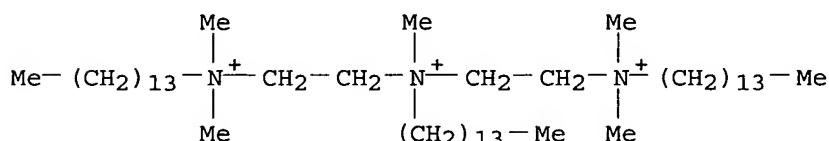
RN 157782-11-1 HCAPLUS

CN 1,2-Ethanediaminium, N,N,N',N'-tetramethyl-N,N'-ditetradecyl-, dibromide
(9CI) (CA INDEX NAME)● 2 Br⁻

RN 207726-16-7 HCAPLUS

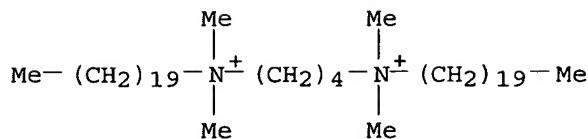
CN 1,2-Ethanediaminium, N,N'-didecyl-N-[2-(decyldimethylammonio)ethyl]-
N,N',N'-trimethyl-, tribromide (9CI) (CA INDEX NAME)● 3 Br⁻

RN 207726-17-8 HCAPLUS

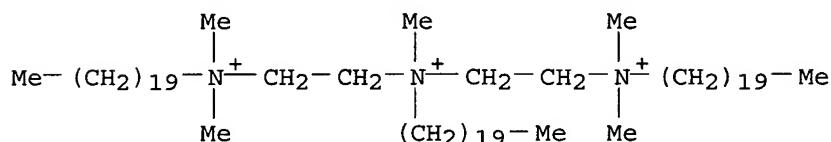
CN 1,2-Ethanediaminium, N-[2-(dimethyltetradecylammonio)ethyl]-N,N',N'-
trimethyl-N,N'-ditetradecyl-, tribromide (9CI) (CA INDEX NAME)● 3 Br⁻

RN 207726-18-9 HCAPLUS

CN 1,2-Ethanediaminium, N,N'-dihexadecyl-N-[2-(hexadecyldimethylammonio)ethyl]-
N,N',N'-trimethyl-, tribromide (9CI) (CA INDEX NAME)

● 2 Br⁻

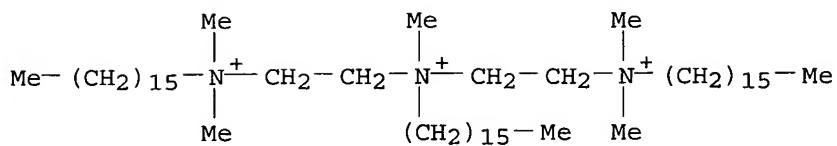
RN 289618-12-8 HCPLUS
 CN 1,2-Ethanediiminium, N,N'-dieicosyl-N-[2-(eicosyldimethylammonio)ethyl]-N,N',N'-trimethyl-, tribromide (9CI) (CA INDEX NAME)

● 3 Br⁻

REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L25 ANSWER 2 OF 2 HCPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1998:323162 HCPLUS
 DOCUMENT NUMBER: 129:19654
 TITLE: Cationic reagents for transfection
 INVENTOR(S): Erbacher, Christoph; Weber, Martin
 PATENT ASSIGNEE(S): Qiagen G.m.b.H., Germany; Erbacher, Christoph; Weber, Martin
 SOURCE: PCT Int. Appl., 29 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

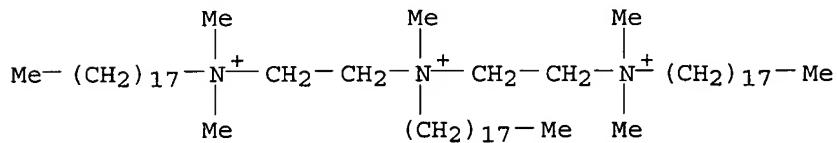
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9819709	A2	19980514	WO 1997-EP6035	19971103
WO 9819709	A3	19980730		
W: AU, CA, JP, US				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
CA 2270396	AA	19980514	CA 1997-2270396	19971103
AU 9853156	A1	19980529	AU 1998-53156	19971103
AU 738384	B2	20010920		
EP 1003556	A2	20000531	EP 1997-950064	19971103
R: BE, CH, DE, DK, FR, GB, LI, LU, NL, SE				
JP 2001503751	T2	20010321	JP 1998-520843	19971103
US 2001048939	A1	20011206	US 1999-304995	19990504
US 6733777	B2	20040511		



● 3 Br⁻

RN 207726-19-0 HCAPLUS

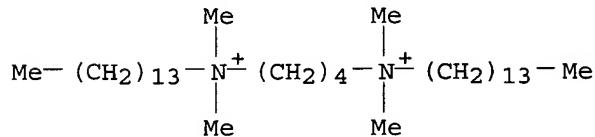
CN 1,2-Ethanediiminium, N-[2-(dimethyloctadecylammonio)ethyl]-N,N',N'-trimethyl-N,N'-dioctadecyl-, tribromide (9CI) (CA INDEX NAME)



● 3 Br⁻

RN 254106-19-9 HCAPLUS

CN 1,4-Butanediaminium, N,N,N',N'-tetramethyl-N,N'-ditetradecyl-, dibromide (9CI) (CA INDEX NAME)



● 2 Br⁻

RN 289618-11-7 HCAPLUS

CN 1,4-Butanediaminium, N,N'-dieicosyl-N,N,N',N'-tetramethyl-, dibromide (9CI) (CA INDEX NAME)

US 2004077582	A1	20040422	US 2003-721532	20031125
PRIORITY APPLN. INFO.:			US 1996-30315P	P 19961104
			WO 1997-EP6035	W 19971103
			US 1999-304995	A3 19990504

OTHER SOURCE(S): MARPAT 129:19654

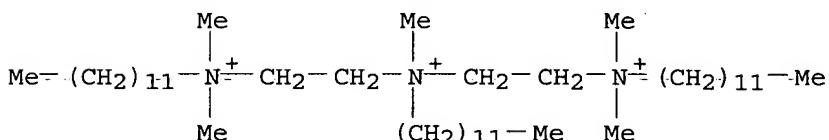
AB The present invention relates to cationic cytofectins and liposomes comprising the same for use in delivering exogenous compds. into cells in vitro and in vivo. The liposome may comprise: (a) a neutral lipid such as dioleoylphosphatidylethanolamine (DOPE) or similar lipid-like compds. such as 1,2-dioleyloxyphosphatidylethanolamine or other lipid-like structures and (b) one or more of the cationic cytofectins provided herein. The present invention also provides transfection kits and methods of delivery comprising the same.

IT 29104-93-6P 61746-24-5P 75174-83-3P
 87959-22-6P 207726-16-7P 207726-17-8P
 207726-18-9P 207726-19-0P 207726-20-3P
 207726-21-4P 207726-22-5P 207726-23-6P,
 biological studies

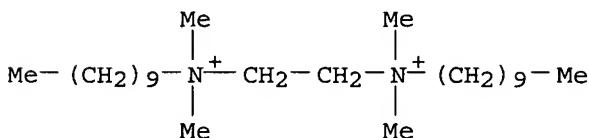
RL: PEP (Physical, engineering or chemical process); PNU (Preparation, unclassified); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
 (cationic cytofector reagents for transfection)

RN 29104-93-6 HCPLUS

CN 1,2-Ethanediiminium, N,N'-didodecyl-N-[2-(dodecylmethylammonio)ethyl]-N,N',N'-trimethyl-, tribromide (9CI) (CA INDEX NAME)

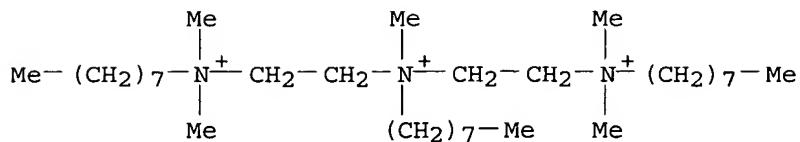
●3 Br⁻

RN 61746-24-5 HCPLUS

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 (CA INDEX NAME)●2 Cl⁻

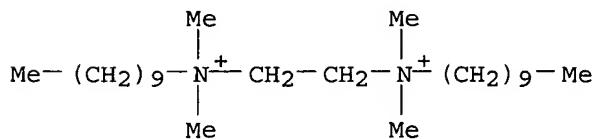
RN 75174-83-3 HCPLUS

CN 1,2-Ethanediiminium, N-[2-(dimethyloctylammonio)ethyl]-N,N',N'-trimethyl-N,N'-dioctyl-, tribromide (9CI) (CA INDEX NAME)



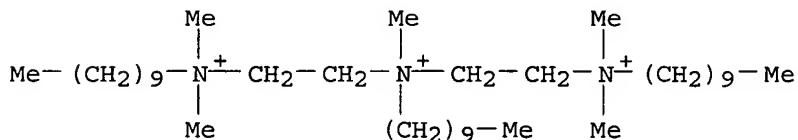
● 3 Br⁻

RN 87959-22-6 HCPLUS
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 (CA INDEX NAME)



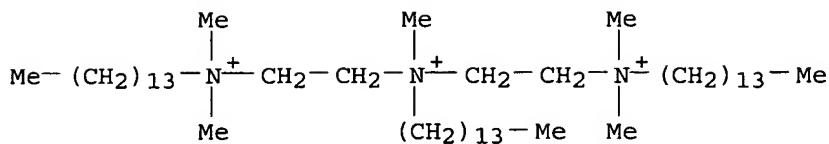
● 2 I⁻

RN 207726-16-7 HCPLUS
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 N,N',N'-trimethyl-, tribromide (9CI) (CA INDEX NAME)



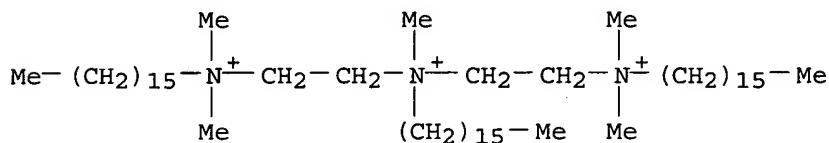
● 3 Br⁻

RN 207726-17-8 HCPLUS
 CN 1,2-Ethanediaminium, N-[2-(dimethyltetradecylammonio)ethyl]-N,N',N'-
 trimethyl-N,N'-ditetradecyl-, tribromide (9CI) (CA INDEX NAME)



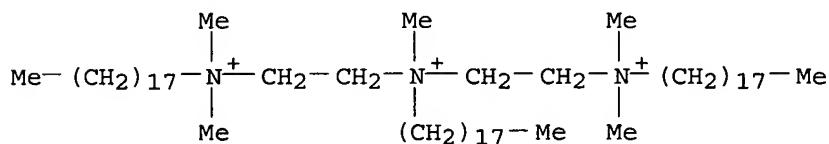
● 3 Br⁻

RN 207726-18-9 HCAPLUS
 CN 1,2-Ethanediiminium, N,N'-dihexadecyl-N-[2-(hexadecyldimethylammonio)ethyl]
 J-N',N'-trimethyl-, tribromide (9CI) (CA INDEX NAME)



● 3 Br⁻

RN 207726-19-0 HCAPLUS
 CN 1,2-Ethanediiminium, N-[2-(dimethyloctadecylammonio)ethyl]-N,N',N'-
 trimethyl-N,N'-dioctadecyl-, tribromide (9CI) (CA INDEX NAME)

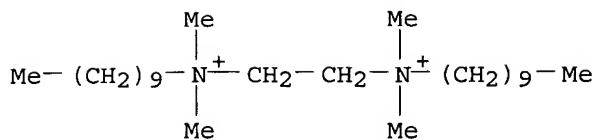


● 3 Br⁻

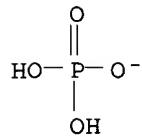
RN 207726-20-3 HCAPLUS
 CN 1,2-Ethanediiminium, N,N'-didecyl-N,N',N',N'-tetramethyl-, phosphate (1:2)
 (9CI) (CA INDEX NAME)

CM 1

CRN 87959-20-4
CMF C26 H58 N2

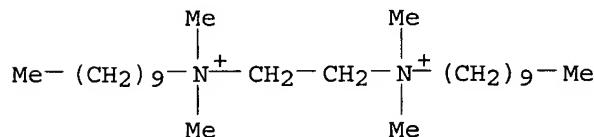


CM 2

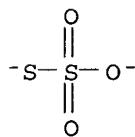
CRN 14066-20-7
CMF H2 O4 P

RN 207726-21-4 HCAPLUS
 CN 1,2-Ethanediaminium, N,N'-didecyl-N,N',N'-tetramethyl-, salt with
 thiosulfuric acid (H₂S₂O₃) (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 87959-20-4
CMF C26 H58 N2

CM 2

CRN 14383-50-7
CMF O3 S2

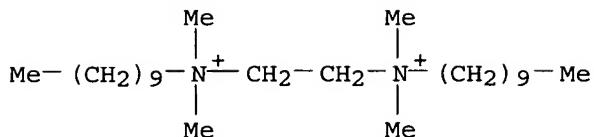
RN 207726-22-5 HCAPLUS
 CN 1,2-Ethanediaminium, N,N'-didecyl-N,N',N'-tetramethyl-, sulfate (1:1)
 (9CI) (CA INDEX NAME)

CM 1

CRN 87959-20-4

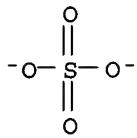
Riggins 10_721532

CMF C26 H58 N2



CM 2

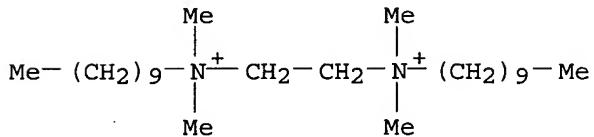
CRN 14808-79-8
CMF O4 S



RN 207726-23-6 HCAPLUS
CN 1,2-Ethanediaminium, N,N'-didecyl-N,N',N'-tetramethyl-, ethanedioate
(1:1) (9CI) (CA INDEX NAME)

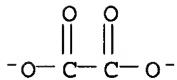
CM 1

CRN 87959-20-4
CMF C26 H58 N2



CM 2

CRN 338-70-5
CMF C2 O4



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L1 STR
L2 18869 SEA FILE=REGISTRY SSS FUL L1
L3 STR
L4 5461 SEA FILE=REGISTRY SUB=L2 SSS FUL L3

L17 STR
 L19 244 SEA FILE=REGISTRY SUB=L4 SSS FUL L17
 L20 84 SEA FILE=HCAPLUS ABB=ON PLU=ON L19
 L21 46 SEA FILE=HCAPLUS ABB=ON PLU=ON L20 AND PD=<DECEMBER 1, 1997
 L22 9 SEA FILE=HCAPLUS ABB=ON PLU=ON ("ERBACHER C"/AU OR "ERBACHER
 CHRISTOPH"/AU) NOT L21
 L23 5217 SEA FILE=REGISTRY ABB=ON PLU=ON L4 NOT L19
 L24 5782 SEA FILE=HCAPLUS ABB=ON PLU=ON L23
 L25 2 SEA FILE=HCAPLUS ABB=ON PLU=ON L24 AND L22
 L26 7 SEA FILE=HCAPLUS ABB=ON PLU=ON L22 NOT L25

=> d ibib abs l26 1-7

L26 ANSWER 1 OF 7 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2005:772574 HCAPLUS
 TITLE: Flow cell for the passive mixing of flowable substances
 INVENTOR(S): Erbacher, Christoph; Manz, Andreas
 PATENT ASSIGNEE(S): Ciba-Geigy Ag, Switz.
 SOURCE: PCT Int. Appl., No pp. given
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9700125	A1	19970103	WO 1996-EP2425	19960604
W: AL, AU, BB, BG, BR, CA, CN, CZ, EE, GE, HU, IL, IS, JP, KP, KR, LK, LR, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, TR, TT, UA, US, UZ, VN, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
AU 9660051	A1	19970115	AU 1996-60051	19960604
EP 833688	A1	19980408	EP 1996-917497	19960604
R: AT, BE, CH, DE, DK, ES, FR, GB, IT, LI, NL				
ZA 9605075	A	19961217	ZA 1996-5075	19960614
PRIORITY APPLN. INFO.:			EP 1995-810405	A 19950616
			WO 1996-EP2425	W 19960604

AB Unavailable

L26 ANSWER 2 OF 7 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2005:724977 HCAPLUS
 TITLE: Flow cell sensor apparatus and optical detection device for analytical measurements on flowable samples and methods of carrying out analytical and optical analytical measurements on flowable samples
 INVENTOR(S): Oroszlan, Peter; Erbacher, Christoph;
 Duveneck, Gert Ludwig; Verpoorte, Elisabeth
 PATENT ASSIGNEE(S): Ciba-Geigy A.G.
 SOURCE: S. African, No pp. given
 CODEN: SFXXAB
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
ZA 9605271	A	19961223	ZA 1996-5271 CH 1995-1853	19960621 A 19950623
PRIORITY APPLN. INFO. : AB Unavailable				

L26 ANSWER 3 OF 7 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2001:762854 HCAPLUS
 DOCUMENT NUMBER: 135:308854
 TITLE: Targeted transfection of cells using a biotinylated dendrimer
 INVENTOR(S): Weber, Martin; Dennig, Joerg; **Erbacher, Christoph**
 PATENT ASSIGNEE(S): Qiagen G.m.b.H., Germany
 SOURCE: PCT Int. Appl., 45 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001076633	A2	20011018	WO 2001-EP3746	20010403
WO 2001076633	A3	20020214		
W: US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR				
DE 10016881	A1	20011018	DE 2000-10016881	20000405
EP 1274462	A2	20030115	EP 2001-936172	20010403
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY, TR				
US 2003096280	A1	20030522	US 2002-240981	20021004
PRIORITY APPLN. INFO. :			DE 2000-10016881	A 20000405
			WO 2001-EP3746	W 20010403

AB The invention relates to a method for carrying out the targeted transfection of cells, to compns., which can be used for such methods, and to corresponding medicaments for use in gene therapy. The invention particularly relates to a method for introducing nucleic acid into cells involving the following steps: (a) mixing a nucleic acid with a dendrimer, whereby a portion of the dendrimer mols. is biotinylated; mixing the prepared complex, which consists of a nucleic acid and a dendrimer, with a second complex, which consists of an avidin or a streptavidin and of a biotinylated target-specific binding mol., and; (c) incubating the complex prepared in step (b) with cells. Dendrimers that are well-suited for the invention are, for example, partially solvolyzed polyamidoamine (PAMAM) dendrimers. Target-specific binding mols. are, in particular, cell type-specific markers also of the cell surface of the target cells.

L26 ANSWER 4 OF 7 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2001:657486 HCAPLUS
 DOCUMENT NUMBER: 135:211443
 TITLE: Acrylic polymers anion exchangers and their use in chromatographic procedures
 INVENTOR(S): **Erbacher, Christoph**
 PATENT ASSIGNEE(S): Qiagen G.m.b.H., Germany
 SOURCE: Ger. Offen., 28 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 10009982	A1	20010906	DE 2000-10009982	20000303
CA 2400722	AA	20010907	CA 2001-2400722	20010216
WO 2001064342	A1	20010907	WO 2001-EP1791	20010216
W: AU, CA, JP, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR				
EP 1259322	A1	20021127	EP 2001-903780	20010216
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI, CY, TR				
JP 2003525119	T2	20030826	JP 2001-563232	20010216
US 2003171443	A1	20030911	US 2002-220657	20021223
PRIORITY APPLN. INFO.:			DE 2000-10009982	A 20000303
			WO 2001-EP1791	W 20010216

AB Anion exchanger polymers, useful for purification and chromatog. separation of nucleic acids, are manufactured by polymerization of ≥ 1 $\text{CH}_2:\text{R}_1\text{COXYNR}_2\text{R}_3$ [$\text{R}_1 = \text{H, Me, or Et; R}_2, \text{R}_3 = \text{H or (OH-substituted) C1-3 alkyl; X = OH, NH, or NR}_4$; $\text{R}_4 = \text{C1-3 alkyl; Y = (CH}_2\text{)}_m(\text{CH}_2\text{O})_n$; $m, n = 0-6$; $m + n > 0$; 1 or both of H's of Y = C1-3 alkyl or $\text{CH}_2:\text{CR}_1\text{COX}_2$; X = O or NH] with ≥ 1 $\text{CH}_2:\text{CR}_5\text{COQ}_1\text{ZQ}_2\text{COCR}_6:\text{CH}_2$ [$\text{R}_5, \text{R}_6 = \text{H, Me, or Et; Q}_1, \text{Q}_2 = \text{O or NH; Z = [(CH}_2\text{)}_o\text{O}]_p(\text{CH}_2\text{)}_q$; o, p, q = 0-3; o + p + q > 0; ≥ 1 H in Z = C1-3 alkyl or $[(\text{CH}_2\text{)}_r\text{O}]_s(\text{CH}_2\text{)}_t\text{NR}_8\text{R}_9$; r, s, t = 0-6; r + s + t > 0; R8, R9 = H or (OH-substituted) C1-3 alkyl].

L26 ANSWER 5 OF 7 HCPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1999:438982 HCPLUS
 DOCUMENT NUMBER: 131:89429
 TITLE: Towards integrated continuous-flow chemical reactors
 AUTHOR(S): Erbacher, Christoph; Bessoth, Fiona G.;
 Busch, Michael; Verpoorte, Elisabeth; Manz, Andreas
 CORPORATE SOURCE: Novartis Pharma, Basel, CH-4002, Switz.
 SOURCE: Mikrochimica Acta (1999), 131(1-2), 19-24
 CODEN: MIACAQ; ISSN: 0026-3672
 PUBLISHER: Springer-Verlag Wien
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB A device for rapid mixing of two solns. is presented. As the main mechanism for mixing is diffusional mass transport, the flow has to be split into several laminae which are narrower than the capillary width. Complete mixing is achieved within a few seconds in a flow-through device with a channel system that is 600 μm wide at its narrowest spot.

REFERENCE COUNT: 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L26 ANSWER 6 OF 7 HCPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1994:195239 HCPLUS
 DOCUMENT NUMBER: 120:195239
 TITLE: Preparation of powders and suspensions of amorphous silicon dioxide microspheres
 INVENTOR(S): Kovats, Ervin; Jelinek, Laszlo; Erbacher, Christoph
 PATENT ASSIGNEE(S): CU Chemie Uetikon AG, Switz.
 SOURCE: Eur. Pat. Appl., 12 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 574642	A1	19931222	EP 1992-810471	19920619
EP 574642	B1	19981028		
R: AT, BE, CH, DE, FR, GB, IT, LI, NL, SE				
AT 172695	E	19981115	AT 1992-810471	19920619
JP 07277725	A2	19951024	JP 1993-172511	19930617
PRIORITY APPLN. INFO.: EP 1992-810471				A 19920619

AB Microporous, spherical poly(silicic acid) particles are prepared by hydrolysis of tetraalkoxysilane in a MeOH or EtOH containing 1-5 mol/L ammonia, 2-12 mol/L water, and 1015-1020 L-1 seed particles, evaporation of the liquid part of the final mixture or sedimentation in low centrifugal fields, and drying of the isolated product to give a slightly agglomerated powder. The dried powders are calcined to give spherical SiO₂ particles. The particles are used for model studies in colloid science.

L26 ANSWER 7 OF 7 HCPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1989:92396 HCPLUS

DOCUMENT NUMBER: 110:92396

TITLE: Aggregation response of European engraver beetles of the genus *Ips* mediated by terpenoid pheromones

AUTHOR(S): Kohnle, U.; Vite, J. P.; Erbacher, C.; Bartels, J.; Francke, W.

CORPORATE SOURCE: Forstzool. Inst., Freiburg, 7800, Fed. Rep. Ger.

SOURCE: Entomologia Experimentalis et Applicata (1988), 49(1-2), 43-53

CODEN: ETEAAT; ISSN: 0013-8703

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Upon exposure to vapors of the host trees monoterpene (-)- α -pinene, *Ips acuminatus* produces the terpene alc. cis-verbenol which, besides ipsdienol and ipsenol, is a component of its aggregation pheromone. *I. cembrae* transforms the same monoterpene predominantly into myrtenol and trans-verbenol, but little into cis verbenol, which interrupts pheromone response under field conditions. On the other hand, *I. cembrae* releases, upon feeding in the bark, the terpene alc. amitinol in major amounts. Amitinol significantly enhances field response to the aggregation pheromone that also includes ipsdienol, ipsenol, and 3-methyl-3-buten-1-ol. However, amitinol reduces pheromone response in *I. acuminatus* and *I. erosus*. Also, males of *I. sexdentatus* release amitinol which appears to increase response to its attractive principle pheromone component, racemic ipsdienol. There is some evidence that present knowledge of the chemical communication systems among European *Ips* species still lacks satisfactory explanation of the naturally occurring aggregation en masse, perhaps with the exception of *I. erosus* and *I. typographus*.

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=> => d stat que nos
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L2      18869 SEA FILE=REGISTRY SSS FUL L1
L3      STR
L4      5461 SEA FILE=REGISTRY SUB=L2 SSS FUL L3
L17     STR
L19     244 SEA FILE=REGISTRY SUB=L4 SSS FUL L17
L20     84 SEA FILE=HCPLUS ABB=ON PLU=ON L19
L21     46 SEA FILE=HCPLUS ABB=ON PLU=ON L20 AND PD=<DECEMBER 1, 1997
L22     9 SEA FILE=HCPLUS ABB=ON PLU=ON ("ERBACHER C"/AU OR "ERBACHER
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CHRISTOPH"/AU) NOT L21
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 L24 5782 SEA FILE=HCAPLUS ABB=ON PLU=ON L23
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 L26 7 SEA FILE=HCAPLUS ABB=ON PLU=ON L22 NOT L25
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 OR L21)
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 L30 1 SEA FILE=HCAPLUS ABB=ON PLU=ON L28 OR L29

=> d ibib abs l30 1

L30 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 1998:323162 HCAPLUS
 DOCUMENT NUMBER: 129:19654
 TITLE: Cationic reagents for transfection
 INVENTOR(S): Erbacher, Christoph; Weber, Martin
 PATENT ASSIGNEE(S): Qiagen G.m.b.H., Germany; Erbacher, Christoph; Weber,
 Martin
 SOURCE: PCT Int. Appl., 29 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9819709	A2	19980514	WO 1997-EP6035	19971103
WO 9819709	A3	19980730		
W: AU, CA, JP, US				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
CA 2270396	AA	19980514	CA 1997-2270396	19971103
AU 9853156	A1	19980529	AU 1998-53156	19971103
AU 738384	B2	20010920		
EP 1003556	A2	20000531	EP 1997-950064	19971103
R: BE, CH, DE, DK, FR, GB, LI, LU, NL, SE				
JP 2001503751	T2	20010321	JP 1998-520843	19971103
US 2001048939	A1	20011206	US 1999-304995	19990504
US 6733777	B2	20040511		
US 2004077582	A1	20040422	US 2003-721532	20031125
PRIORITY APPLN. INFO.:			US 1996-30315P	P 19961104
			WO 1997-EP6035	W 19971103
			US 1999-304995	A3 19990504

OTHER SOURCE(S): MARPAT 129:19654

AB The present invention relates to cationic **cytofectins** and liposomes comprising the same for use in delivering exogenous compds. into cells in vitro and in vivo. The liposome may comprise: (a) a neutral lipid such as dioleoylphosphatidylethanolamine (DOPE) or similar lipid-like compds. such as 1,2-dioleoyloxyphosphatidylethanolamine or other lipid-like structures and (b) one or more of the cationic **cytofectins** provided herein. The present invention also provides

transfection kits and methods of delivery comprising the same.

=> => d stat que
L1 STR

C~~G2~~N~~G1~~N
5 1 2 3 4

REP G1=(1-10) CH2

REP G2=(7-19) C

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 5

STEREO ATTRIBUTES: NONE

L2 18869 SEA FILE=REGISTRY SSS FUL L1
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REP G2=(7-19) C

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

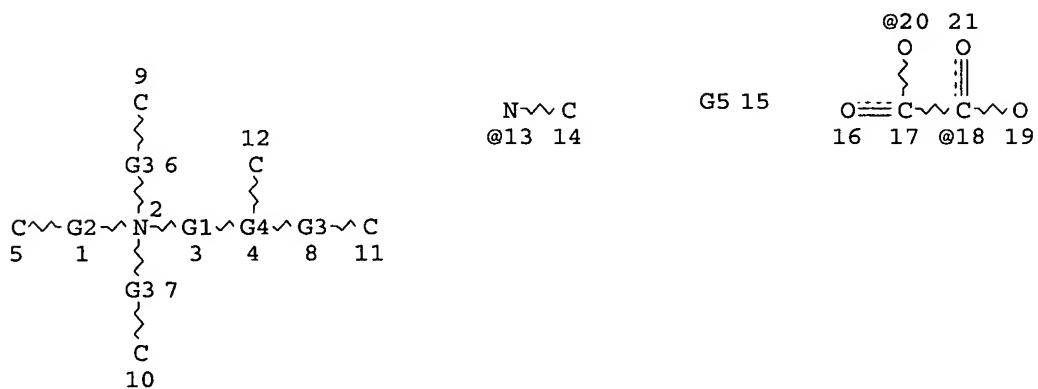
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 6

STEREO ATTRIBUTES: NONE

L4 5461 SEA FILE=REGISTRY SUB=L2 SSS FUL L3
L17 STR



REP G1=(1-10) CH2

REP G2=(7-19) C

REP G3=(0-5) C

VAR G4=NH/13

VAR G5=X/P/S/OH/20/18

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 21

STEREO ATTRIBUTES: NONE

L19 244 SEA FILE=REGISTRY SUB=L4 SSS FUL L17
L20 84 SEA FILE=HCAPLUS ABB=ON PLU=ON L19
L21 46 SEA FILE=HCAPLUS ABB=ON PLU=ON L20 AND PD=<DECEMBER 1, 1997
L22 9 SEA FILE=HCAPLUS ABB=ON PLU=ON ("ERBACHER C"/AU OR "ERBACHER
CHRISTOPH"/AU) NOT L21
L23 5217 SEA FILE=REGISTRY ABB=ON PLU=ON L4 NOT L19
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L25 2 SEA FILE=HCAPLUS ABB=ON PLU=ON L24 AND L22
L26 7 SEA FILE=HCAPLUS ABB=ON PLU=ON L22 NOT L25
L27 1630 SEA FILE=HCAPLUS ABB=ON PLU=ON ("WEBER M"/AU OR "WEBER M
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"WEBER M F"/AU OR "WEBER M G"/AU OR "WEBER M H"/AU OR "WEBER M
J"/AU OR "WEBER M JR"/AU OR "WEBER M K"/AU OR "WEBER M L"/AU
OR "WEBER M M"/AU OR "WEBER M O"/AU OR "WEBER M P"/AU OR
"WEBER M R"/AU OR "WEBER M S"/AU) OR WEBER MARTIN?/AU
L28 0 SEA FILE=HCAPLUS ABB=ON PLU=ON (L27 AND L24) NOT (L25 OR L26
OR L21)
L29 1 SEA FILE=HCAPLUS ABB=ON PLU=ON L27 AND CYTOFECT?
L30 1 SEA FILE=HCAPLUS ABB=ON PLU=ON L28 OR L29
L31 441 SEA FILE=HCAPLUS ABB=ON PLU=ON (L27 AND ?FECT?) NOT (L25 OR
L26 OR L21 OR L30)
L32 13 SEA FILE=HCAPLUS ABB=ON PLU=ON L31 AND TRANSFECT?

=> d ibib abs l32 1-13

L32 ANSWER 1 OF 13 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2004:692661 HCAPLUS
DOCUMENT NUMBER: 142:62439
TITLE: Dendritic polyamines: Simple access to new materials
with defined treelike structures for application in
nonviral gene delivery
AUTHOR(S): Kraemer, Michael; Stumbe, Jean-Francois; Grimm,
Guenther, Kaufmann, Brigitte; Krueger, Ute;
Weber, Martin; Haag, Rainer
CORPORATE SOURCE: Freiburger Materialforschungszentrum und Institut fuer
Makromolekulare Chemie, Universitaet Freiburg,
Freiburg, 79104, Germany
SOURCE: ChemBioChem (2004), 5(8), 1081-1087
CODEN: CBCHFX; ISSN: 1439-4227
PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Polycationic dendrimers are interesting nonviral vectors for in vitro DNA
delivery. We describe a simple approach to the synthesis of dendritic
polyamines with different mol. wts. and adjustable flexibility (degrees of
branching; DB). Both parameters influence the transfection
efficiency and the cell toxicity of the polymer. Functionalization of
hyperbranched polyethylenimine (PEI) by a two-step procedure generated
fully branched pseudodendrimers (analogs of polypropylenimine (PPI) and
polyamidoamine (PAMAM) dendrimers). The DNA transfection

efficiencies observed for these polymers depended on the cell line investigated. The highest efficiencies were observed for polymers whose unfunctionalized PEI cores had mol. wts. in the range $M_w = 6000-25\ 000\ g\ mol^{-1}$. The cytotoxicity of the dendrimers generally rises with increasing core size. The data collected for NIH/3T3 and COS-7 cells indicate a maximum transfection efficiency at around 60% branching for the PPI analogs, and at a PEI-core mol. weight of $M_w = 25\ 000\ g\ mol^{-1}$. PAMAM functionalization of PEI ($M_w = 5000$ and $21\ 000\ g\ mol^{-1}$) leads to polymers with little or no cytotoxicity in the cell lines investigated.

REFERENCE COUNT: 55 THERE ARE 55 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L32 ANSWER 2 OF 13 HCAPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2004:98854 HCAPLUS
 DOCUMENT NUMBER: 140:215193
 TITLE: Increased activity of catalase in tumor cells overexpressing IGFBP-2
 AUTHOR(S): Hoeflich, A.; Fettscher, O.; Preta, G.; Lahm, H.; Kolb, H. J.; Wolf, E.; Weber, M. M.
 CORPORATE SOURCE: Lehrstuhl fuer Molekulare Tierzucht und Biotechnologie/Genzentrum, Ludwig-Maximilians-Universitaet, Munich, Germany
 SOURCE: Hormone and Metabolic Research (2003), 35(11/12), 816-821
 CODEN: HMMRA2; ISSN: 0018-5043
 PUBLISHER: Georg Thieme Verlag
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB Elevated levels of IGFBP-2 are found in serum and tissues under various stressful conditions and in many malignancies. In previous studies, we have shown that overexpression of IGFBP-2 results in increased tumorigenic potential in Y-1 mouse adrenocortical tumor cells, and that these effects are presumably mediated through IGF-independent mechanisms. Here, we show that highly proliferative IGFBP-2-overexpressing Y-1 cells, but not control Y-1 cells, grow to very high cell densities. In order to evaluate whether the increased cell densities in IGFBP-2-transfected Y-1 cells were accompanied by alterations in the oxidative stress system, we analyzed the effect of IGFBP-2 overexpression on the activity of various antioxidative enzymes in two malignant cell lines. Among the tested antioxidative enzymes (catalase, superoxide-dismutase, glutathione peroxidase, glutathione S-transferase), only catalase enzyme activity was significantly higher in IGFBP-2-transfected Y-1 mouse adrenocortical tumor cells and in IGFBP-2-transfected human colon tumor cells (Caco-2) compared to control-transfected Y-1 and Caco-2 cells and non-tumor 293 human epithelial cells. However, overexpression of catalase in malignant cells did not result in increased resistance to oxidative stress as measured by cell viability and protein oxidation after treatment of the cells with hydrogen peroxide. This might be due to an upregulation of the GST enzyme activity after treatment with H₂O₂ that we observed selectively in the control-transfected Y-1 cells and which might compensate for the higher catalase activity in the IGFBP-2 overexpressing cells. In summary, we found a strong and selective upregulation of the catalase activity in IGFBP-2 overexpressing malignant Y-1 and Caco-2 cell lines that might contribute to the highly malignant phenotype of IGFBP-2 overexpressing tumors through as yet unknown mechanisms.

REFERENCE COUNT: 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ACCESSION NUMBER: 2003:175965 HCPLUS
DOCUMENT NUMBER: 139:312273
TITLE: Fabrication of homogeneously cross-linked, functional alginate microcapsules validated by NMR-, CLSM- and AFM-imaging
AUTHOR(S): Zimmermann, H.; Hillgartner, M.; Manz, B.; Feilen, P.; Brunnenmeier, F.; Leinfelder, U.; **Weber, M.**; Cramer, H.; Schneider, S.; Hendrich, C.; Volke, F.; Zimmermann, U.
CORPORATE SOURCE: Arbeitsgruppe Tieftemperatur-Biophysik, Fraunhofer Institut fur Biomedizinische Technik (IBMT), St. Ingbert, 66386, Germany
SOURCE: Biomaterials (2003), 24(12), 2083-2096
CODEN: BIMADU; ISSN: 0142-9612
PUBLISHER: Elsevier Science Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Cross-linked alginate microcapsules of sufficient mech. strength can immunoisolate cells for the long-term treatment of hormone and other deficiency diseases in human beings. However, gelation of alginate by external Ba²⁺ (or other divalent cations) produces non-homogeneous crosslinking of the polymeric mannuronic (M) and guluronic (G) acid chains. The stability of such microcapsules is rather limited. Here, we show that homogeneous crosslinking can be achieved by injecting BaCl₂ crystals into alginate droplets before they come into contact with external BaCl₂. The high **effectiveness** of this crystal gun method is demonstrated by confocal laser scanning microscopy and by advanced NMR imaging. Both techniques gave clear-cut evidence that homogeneous cross-linkage throughout the microcapsule is only obtained with simultaneous internal and external gelation. Atomic force microscopy showed a very smooth surface topog. for microcapsules made by the crystal gun method, provided that excess Ba²⁺ ions were removed immediately after gelation. In vitro expts. showed greatly suppressed swelling for crystal gun microcapsules. Even alginate extracted from *Lessonia nigrescens* (highly biocompatible) yielded microcapsules with long-term mech. stability not hitherto possible. Encapsulation of rat islets, human monoclonal antibodies secreting hybridoma cells and murine mesenchymal stem cells **transfected** with cDNA encoding for bone morphogenetic protein (BMP-4) revealed that injection of BaCl₂ crystals has no adverse side effects on cell viability and function. However, the release of low-mol. weight factors (such as insulin) may be delayed when using alginate concns. in the usual range.
REFERENCE COUNT: 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L32 ANSWER 4 OF 13 HCPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2002:425649 HCPLUS
DOCUMENT NUMBER: 138:19965
TITLE: Gene transfer into eukaryotic cells
AUTHOR(S): **Weber, Martin**
CORPORATE SOURCE: QIAGEN GmbH, Hilden, Germany
SOURCE: Manufacturing of Gene Therapeutics (2002), 135-153.
Editor(s): Subramanian, G. Kluwer Academic/Plenum
Publishers: New York, N. Y.
CODEN: 69CQVE; ISBN: 0-306-46680-5
DOCUMENT TYPE: Conference; General Review
LANGUAGE: English
AB A review describes the basic principles of the commonly used gene transfer methods for *in vitro* and *in vivo* applications, including the advantages and disadvantages of each of these technologies as well as their main

areas of applications. One of these approaches is based on naturally occurring viruses, in which gene transfer vectors are designed on the basis of a particular virus where the unneeded and dangerous genetic information of the virus has been deleted, and the genetic information which is to be introduced into the cell is incorporated into the virus structure to form the vector. Such vectors are mainly used in *in vivo* systems, and not very frequently in *in vitro* systems. The second approach for designing gene transfer vectors is based on nonviral systems, which includes classical nonviral **transfection** and advanced nonviral **transfection** technologies, and this is used equally often in *in vivo* and in *in vitro* systems.

REFERENCE COUNT: 48 THERE ARE 48 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L32 ANSWER 5 OF 13 HCPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2002:232757 HCPLUS
 DOCUMENT NUMBER: 137:342012
 TITLE: Formation of cartilage matrix proteins by BMP-
transfected murine mesenchymal stem cells
 encapsulated in a novel class of alginates
 Weber, M.; Steinert, A.; Jork, A.; Dimmler,
 A.; Thurmer, F.; Schutze, N.; Hendrich, C.;
 Zimmermann, U.
 CORPORATE SOURCE: Department of Biotechnology, University of Wurzburg,
 Wurzburg, D-97074, Germany
 SOURCE: Biomaterials (2002), 23(9), 2003-2013
 CODEN: BIMADU; ISSN: 0142-9612
 PUBLISHER: Elsevier Science Ltd.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Proliferation and differentiation of wild-type, BMP-2 and BMP-4
transfected cells of C3H10T1/2, a mouse mesenchymal stem cell line
 that can differentiate into chondrocytes, were studied under monolayer
 (2D-) and encapsulation (3D-) conditions. Cells were encapsulated in a
 novel class of alginate. The alginate was of clin. grade (CG) because of
 complete removal of mitogenic and cytotoxic contaminants by chemical means.
 Compared to com. alginates used so far for encapsulation it was
 characterized by ultra-high viscosity (UHV; viscosity of a 0.1% w/v solution
 of about 20 cP). In contrast to monolayer cultures, proliferation of
 cells was prevented when the cells were encapsulated in UHV/CG alginate at
 the same suspension d. As revealed by immunohistochem. and quant. RT-PCR,
transfected and wild-type monolayer cells showed synthesis of type
 I collagen after transfer into differentiation medium, while culture in an
 alginate scaffold resulted in an upregulation of type II collagen and
 other hyaline cartilage proteins. BMP-4 **transfected** cells
 produced considerably more type II collagen than BMP-2 **transfected**
 and wild-type cells. BMP-4 **transfected** cells were also
 characterized by type I collagen production up to Day 10 and exhibited
 transient alkaline phosphatase activity levels that were much higher than the
 peak values observed for the other two cell lines. The coincidence of the
 ALP peak values with downregulation of type I collagen in BMP-4
transfected cells suggested that C3H10T1/2 cells differentiate
 into chondrocytes via a chondroprogenitor-like cell.
 REFERENCE COUNT: 44 THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS
 RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L32 ANSWER 6 OF 13 HCPLUS COPYRIGHT 2005 ACS on STN
 ACCESSION NUMBER: 2001:359454 HCPLUS
 DOCUMENT NUMBER: 135:865
 TITLE: New technique to gene transfer in Eukaryonten cells

AUTHOR(S) : **Weber, Martin**
CORPORATE SOURCE: Qiagen, Hilden, Germany
SOURCE: Nachrichten aus der Chemie (2000), 48(1), 18-23
CODEN: NACHFB; ISSN: 1439-9598
PUBLISHER: Wiley-VCH Verlag GmbH
DOCUMENT TYPE: Journal; General Review
LANGUAGE: German

AB A review with 2 refs. is given on viral and non-viral gene transfer methods, structure and synthesis of polyamidoamine (PAMAM)-dendrimeres, **transfections** with PAMAM-dendrimeres, non-liposomal lipids as 1st steps to synthetic viruses, and **transfections** with non-liposomal cationic lipids.

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L32 ANSWER 7 OF 13 HCPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2001:275734 HCPLUS
DOCUMENT NUMBER: 136:49197
TITLE: NF-Y binding is required for transactivation of neuronal aromatic l-amino acid decarboxylase gene promoter by the POU-domain protein Brn-2
AUTHOR(S) : Dugast, C.; **Weber, M. J.**
CORPORATE SOURCE: CNRS UMR 5099, Laboratoire de Biologie Moleculaire Eucaryote, Toulouse, 31062, Fr.
SOURCE: Molecular Brain Research (2001), 89(1,2), 58-70
CODEN: MBREE4; ISSN: 0169-328X
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB We have previously characterized binding sites for the NF-Y transcription factor (-71/-52) and Brn-2 POU-domain protein (-92/-71) in the neuronal promoter of the human aromatic l-amino acid decarboxylase gene. We have now explored the functional role of these binding sites in **transfected** SK-N-BE neuroblastoma cells. Mutations of the NF-Y site that abolish binding depressed expression of a luciferase reporter gene up to 25-fold. The overexpression of a dominant neg. mutant of NF-YA subunit depressed expression by 60%. Promoter activity was increased by the overexpression of Brn-2. Mutations or deletion of the binding site of Brn-2 did not suppress transcriptional activation by overexpressed Brn-2, while promoters defective in NF-Y binding were not transactivated by Brn-2. A GST-pulldown experiment showed that recombinant human Brn-2 protein weakly interacts with recombinant NF-Y outside of DNA. Cooperative binding of recombinant NF-Y and GST-Brn-2 proteins on the neuronal promoter was evidenced by an electrophoretic mobility shift assay. The POU-domain of Brn-2 was sufficient for such interaction. The results thus suggest that the activation of the neuronal promoter of the aromatic l-amino acid decarboxylase gene requires a direct interaction between the ubiquitous NF-Y factor and a cell-specific POU-domain protein. The NF-Y, but not the Brn-2 binding site, is essential for the recruitment of the NF-Y/Brn-2 complex on the promoter.

REFERENCE COUNT: 69 THERE ARE 69 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L32 ANSWER 8 OF 13 HCPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1999:306368 HCPLUS
DOCUMENT NUMBER: 131:126076
TITLE: Activated polyamidoamine dendrimers, a non-viral vector for gene transfer to the corneal endothelium
AUTHOR(S) : Hudde, T.; Rayner, S. A.; Comer, R. M.; **Weber, M.**; Isaacs, J. D.; Waldmann, H.; Larkin, D. F.

P.; George, A. J. T.
CORPORATE SOURCE: Department of Immunology, Division of Medicine,
Imperial College School of Medicine, Hammersmith
Hospital, London, W12 0NN, UK
SOURCE: Gene Therapy (1999), 6(5), 939-943
CODEN: GETHEC; ISSN: 0969-7128
PUBLISHER: Stockton Press
DOCUMENT TYPE: Journal
LANGUAGE: English
AB We investigated the efficiency of activated polyamidoamine dendrimers, a new class of nonviral vectors, to **transfect** rabbit and human corneas in *ex vivo* culture. In addition to assessing the expression of a marker gene we have demonstrated that this approach can be used to induce the production of TNF receptor fusion protein (TNFR-Ig), a protein with therapeutic potential. Whole thickness rabbit or human corneas were **transfected** *ex vivo* with complexes consisting of dendrimers and plasmids containing lacZ or TNFR-Ig genes. Following optimization 6-10% of the corneal endothelial cells expressed the marker gene. Expression was restricted to the endothelium and was maximal after **transfection** with 18:1 (weight/weight) activated dendrimer:plasmid DNA ratio and culture for 3 days. The supernatant of corneas **transfected** with TNFR-Ig plasmid contained TNFR-Ig protein which was able to inhibit TNF-mediated cytotoxicity in a bioassay. We have therefore shown that activated dendrimers are an efficient nonviral vector capable of transducing corneal endothelial cells *ex vivo*. They may have applications in gene-based approaches aimed at prevention of corneal allograft rejection or in treatment of other disorders of corneal endothelium.

REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L32 ANSWER 9 OF 13 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1997:437837 HCAPLUS
DOCUMENT NUMBER: 127:134521
TITLE: Transfer of genes for IL-10 and TGF- β to isolated human pancreatic islets
AUTHOR(S): Deng, S.; Yang, Z. D.; Ketchum, R. J.; Kucher, T.; Weber, M.; Shaked, A.; Naji, A.; Brayman, K.
L.
CORPORATE SOURCE: Department of Surgery, University of Pennsylvania Medical Center, Philadelphia, PA, 19104, USA
SOURCE: Transplantation Proceedings (1997), 29(4), 2206
CODEN: TRPPA8; ISSN: 0041-1345
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Fully exogenous DNA sequences were **effectively** **transfected** into isolated human islets *in vitro* by an adenoviral vector, as demonstrated by histol. evidence of a novel gene product within islet cells and by the *in vitro* production of immunomodulatory cytokines. Further, human islet viability and function were preserved following viral exposure and gene (marker or cytokine) transfer. Thus, a model has been developed using isolated islets bearing novel genes, to investigate the local delivery of agents, such as immunosuppressive cytokines, to modulate host immunoreactivity and **affect** graft survival.
REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L32 ANSWER 10 OF 13 HCAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1997:416104 HCAPLUS
DOCUMENT NUMBER: 127:76094

TITLE: IGF-I receptor signalling: lessons from the somatotroph
AUTHOR(S): Melmed, S.; Yamashita, S.; Yamasaki, H.; Fagin, J.; Namba, H.; Yamamoto, H.; **Weber, M.**; Morita, S.; Webster, J.; Prager, D.
CORPORATE SOURCE: Department of Medicine, Cedars-Sinai Research Institute-UCLA School of Medicine, Los Angeles, CA, 90048, USA
SOURCE: Recent Progress in Hormone Research (1996), Volume Date 1995, 51, 189-216
CODEN: RPHRA6; ISSN: 0079-9963
PUBLISHER: Endocrine Society
DOCUMENT TYPE: Journal; General Review
LANGUAGE: English
AB A review, with 65 refs. Insulin-like growth factor 1 (IGF-I) is a major feedback regulator of pituitary GH secretion, with defined actions occurring at both the hypothalamus and pituitary. The IGF-I gene is expressed in the anterior pituitary in a GH-dependent manner thus providing for both endocrine- as well as autocrine-mediated GH regulation. In turn, IGF-I selectively and specifically inhibits GH gene transcription and secretion, its attenuating effects on nascent GH mRNA synthesis being demonstrable within 1 h. Binding of IGF-I to its pituitary cell surface receptor is followed by rapid activation of the intrinsic tyrosine kinase activity of the receptor β -subunit and phosphorylation of insulin receptor substrate 1 (IRS-1). Structure-function studies of the human IGF-I receptor were performed in stable, GH-secreting transfectants expressing either the cDNA encoding the wild-type (WT) human IGF receptor and exhibiting enhanced IGF-I responsiveness, or cDNAs encoding IGF-I receptor mutants and a truncated, kinase-deficient receptor (952STOP). 950Tyr situated on the submembrane receptor domain was found to be critical for transducing the IGF-I signal to the GH gene. IGF-I failed to suppress GH secretion by signaling endogenous rat IGF-I receptors when hybrid receptors were formed with kinase-deficient human receptors and rat hemi-receptors. This dominant neg. effect on hormone secretion was also evidenced when mitogenic IGF-I signals were blocked in vitro and in vivo by these hybrid receptors. Using similar doses of IGF-I, the IGF-I receptor cell transfectants also demonstrated ligand-dependent activation of ERKs in pituitary cells. In conclusion, the pituitary IGF-I receptor mediates the neg. feedback regulation of GH. Thus, IGF-I receptor mass may determine GH responses to malnutrition, pregnancy, and refeeding. IGF-I receptor mutations may also prove useful to abrogate the growth of IGF-I-dependent tumors. These structure-function studies of the human IGF-I receptor provide mechanistic insights into both metabolic control of the GH axis, as well as target tissue proliferative characteristics.
REFERENCE COUNT: 65 THERE ARE 65 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L32 ANSWER 11 OF 13 HCPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1997:349965 HCPLUS
DOCUMENT NUMBER: 127:12859
TITLE: Effects of lipopolysaccharides on liposome-mediated transfection and the consequence for DNA preparation for gene therapy
AUTHOR(S): **Weber, Martin**; Moeller, Kathrin; Welzeck, Michaela; Schorr, Joachim
CORPORATE SOURCE: QIAGEN GmbH, Hilden, D-40724, Germany
SOURCE: Artificial Self-Assembling Systems for Gene Delivery, developed from Two Conferences, Wakefield, Mass., Sept. 28-29, 1995, and Washington, D. C., Oct. 10-11,

1995 (1996), Meeting Date 1995, 56-62. Editor(s):
Felgner, Philip L. American Chemical Society:
Washington, D. C.
CODEN: 64KHA5

DOCUMENT TYPE: Conference; General Review
LANGUAGE: English

AB A review with 12 refs. The suitability of different methods for preparation of plasmid DNA for liposome-mediated **transfection** was systematically investigated. The reporter plasmid, pRSVcat, was prepared using several methods and residual impurities in the preps. were quantitated. **Transfection** with these preps. was performed with several cell lines. **Transfection** efficiencies were determined by measuring chloramphenicol acetyltransferase expression. Higher **transfection** efficiencies were obtained with plasmid preps. of higher purity (anion-exchange chromatog. or two rounds of CsCl-gradient centrifugation) than with preps. of lower purity (silica-based DNA adsorption or one round of CsCl centrifugation). Moreover the results demonstrated, that increasing amts. of lipopolysaccharides in plasmid preps. directly correlate with decreasing **transfection** efficiencies. The results support the necessity to use endotoxin free DNA for gene therapy expts. and LPS sensitive cell lines.

L32 ANSWER 12 OF 13 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1995:977808 HCAPLUS

DOCUMENT NUMBER: 124:50123

TITLE: Effects of lipopolysaccharide on **transfection** efficiency in eukaryotic cells

AUTHOR(S): Weber, Martin; Moeller, Kathrin; Welzeck, Michaela; Schorr, Joachim

CORPORATE SOURCE: QIAGEN GmbH, Hilden, Germany

SOURCE: BioTechniques (1995); 19(6), 930, 932, 934, 936, 938, 940

CODEN: BTNQDO; ISSN: 0736-6205

PUBLISHER: Eaton

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The suitability of different purification methods for preparation of plasmid DNA for

transfection into eukaryotic cells was systematically investigated. The reporter plasmid, pRSVcat, was prepared using several methods, and residual impurities in the preps. were quantitated.

Transfection with these preps. was performed with several cell lines (HeLa, Huh7, COS7 and LMH) and two **transfection** methods:

liposome-mediated and calcium phosphate **transfection**.

Transfection efficiencies were determined by measuring chloramphenicol acetyltransferase expression. Higher **transfection** efficiencies were obtained with plasmid preps. of higher purity (those prepared by anion-exchange chromatog. or two rounds of CsCl-gradient centrifugation) than with preps. of lower purity (those prepared using a silica-based DNA adsorption method or a single round of CsCl centrifugation). The results also demonstrated specifically that increasing concns. of lipopolysaccharides in plasmid preps. directly correlate with decreasing **transfection** efficiencies.

L32 ANSWER 13 OF 13 HCAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER: 1994:451253 HCAPLUS

DOCUMENT NUMBER: 121:51253

TITLE: Hepadnavirus P protein utilizes a tyrosine residue in the TP domain to prime reverse transcription

AUTHOR(S): Weber, Martin; Bronsema, Viola; Bartos,

Holger; Bosserhoff, Armin; Bartenschlage, Ralf;
Schaller, Heinz
CORPORATE SOURCE: ZMBH, Univ. Heidelberg, Heidelberg, 69120, Germany
SOURCE: Journal of Virology (1994), 68(5), 2994-9
CODEN: JOVIAM; ISSN: 0022-538X

DOCUMENT TYPE: Journal
LANGUAGE: English

AB Hepadnavirus DNA minus strands are covalently linked at their 5' terminus to the viral P gene product, which has been taken to indicate that the hepadnaviral polymerase polypeptide itself also functions as a protein primer for initiating reverse transcription of the RNA pregenome. The present study confirms this indication by identifying the nucleotide-linked amino acid in the P protein sequence of the duck hepatitis B virus (DHBV). In a first set of expts., mutational anal. of three phylogenetically conserved tyrosine residue sin the DNA terminal (TP) domain indicated that of these, only tyrosine 96 was essential for both viral DNA synthesis in **transfected** cells and priming of DNA synthesis in a cell-free system. This assignment was confirmed by direct biochem. anal.: tryptic peptides from the DHBV P protein, 32P labeled at the priming amino acid by the initiating dGTP and addnl. labeled internally by [35S]methionine, were isolated and analyzed in parallel to reference peptides synthesized chemical and 33P labeled by a tyrosine kinase. Mobility in high-performance liquid chromatog., as well as the release in stepwise amino acid sequencing of phospholabel and of [35S]methionine, identified the priming amino acid unequivocally as the tyrosine in the sequence 91KLSGLYQMK99, which is located in the center of the TP domain. Conserved sequence motifs surrounding Tyr-96 allow the prediction of the priming tyrosine in other hepadnaviruses. Weak sequence similarity to picornavirus genome-linked polypeptides (VPgs) and similar gene organization suggest a common origin for the mechanisms that use protein priming to initiate synthesis of viral DNA genomes or RNA genomes from an RNA template.

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